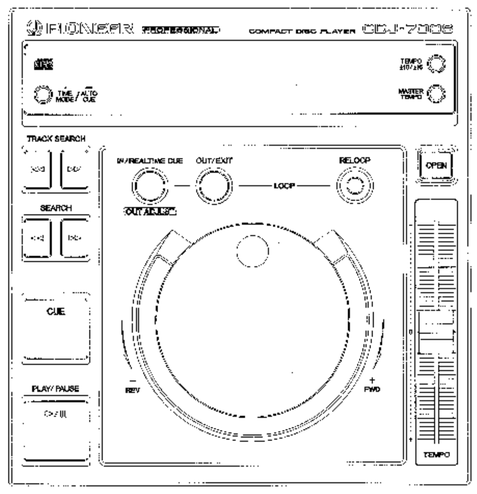
# Service Manual

PIONEER®

*The Art of Entertainment*



ORDER NO.
**RRV1846**

COMPACT DISC PLAYER

# CDJ-700S
# CDJ-500S

**THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).**

| Type | Model | | Power Requirement | The voltage can be converted by the following method. |
|---|---|---|---|---|
| | CDJ - 700S | CDJ - 500S | | |
| KUC | O | – | AC120V | ——— |
| HY | – | O | AC220 – 230V/240V | With the voltage selector |
| SL | – | O | AC110V/120V/220 – 230V/240V | With the voltage selector |

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T-FZY AUG 1997 Printed in Belgium

# 1. SAFETY INFORMATION

**This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

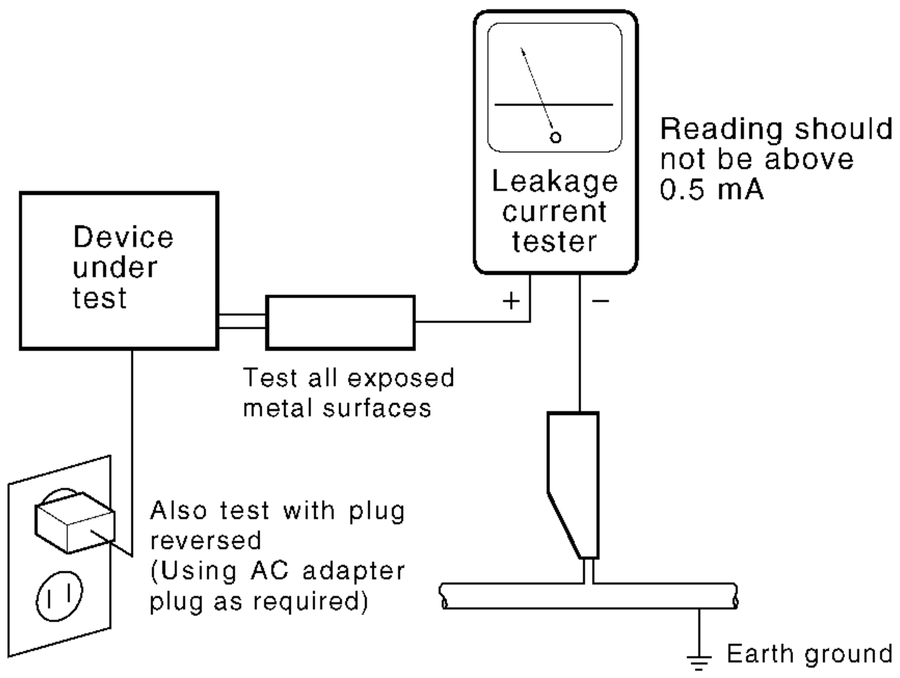
**(FOR USA MODEL ONLY)**

## 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

### LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.**

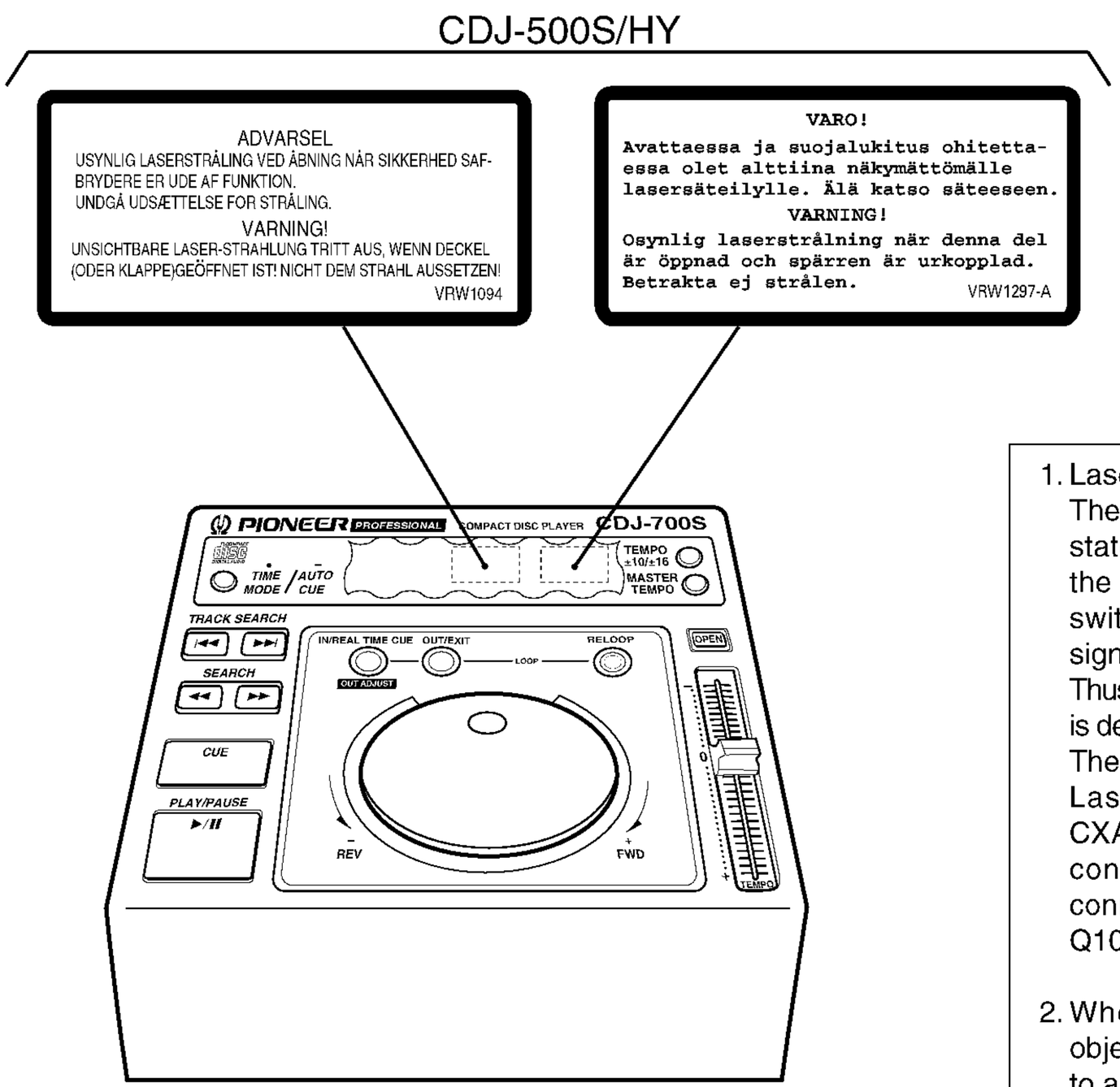
## 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## LABEL CHECK (for CDJ - 500S /HY and CDJ - 500S /SL)




### Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S651) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S651) is not on $\overline{\text{CLMP}}$ terminal side ($\overline{\text{CLMP}}$ signal is OFF or high level).
   Thus, the interlock will no longer function if the switch (S651) is deliberatery set to $\overline{\text{CLMP}}$ terminal side. (low level)
   The interlock also does not function in the test mode ⁎.
   Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC101) on the MAIN BOARD ASSY is connected to GND, or pin 23 of IC701 ($\overline{\text{LDON}}$) is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

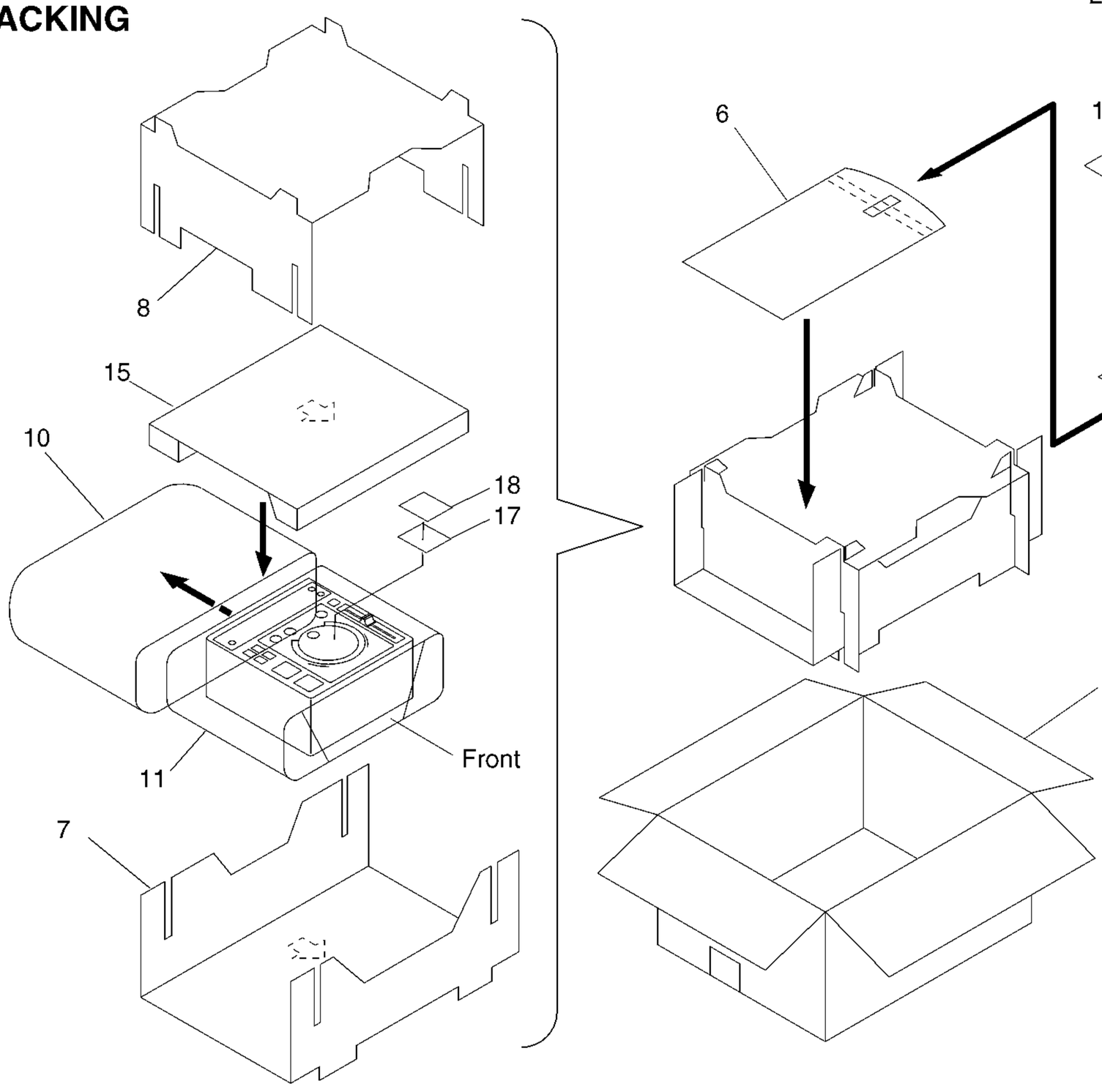
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

⁎ : Refer to page 44.

# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

## 2.1 PACKING




### (1) PARTS LIST

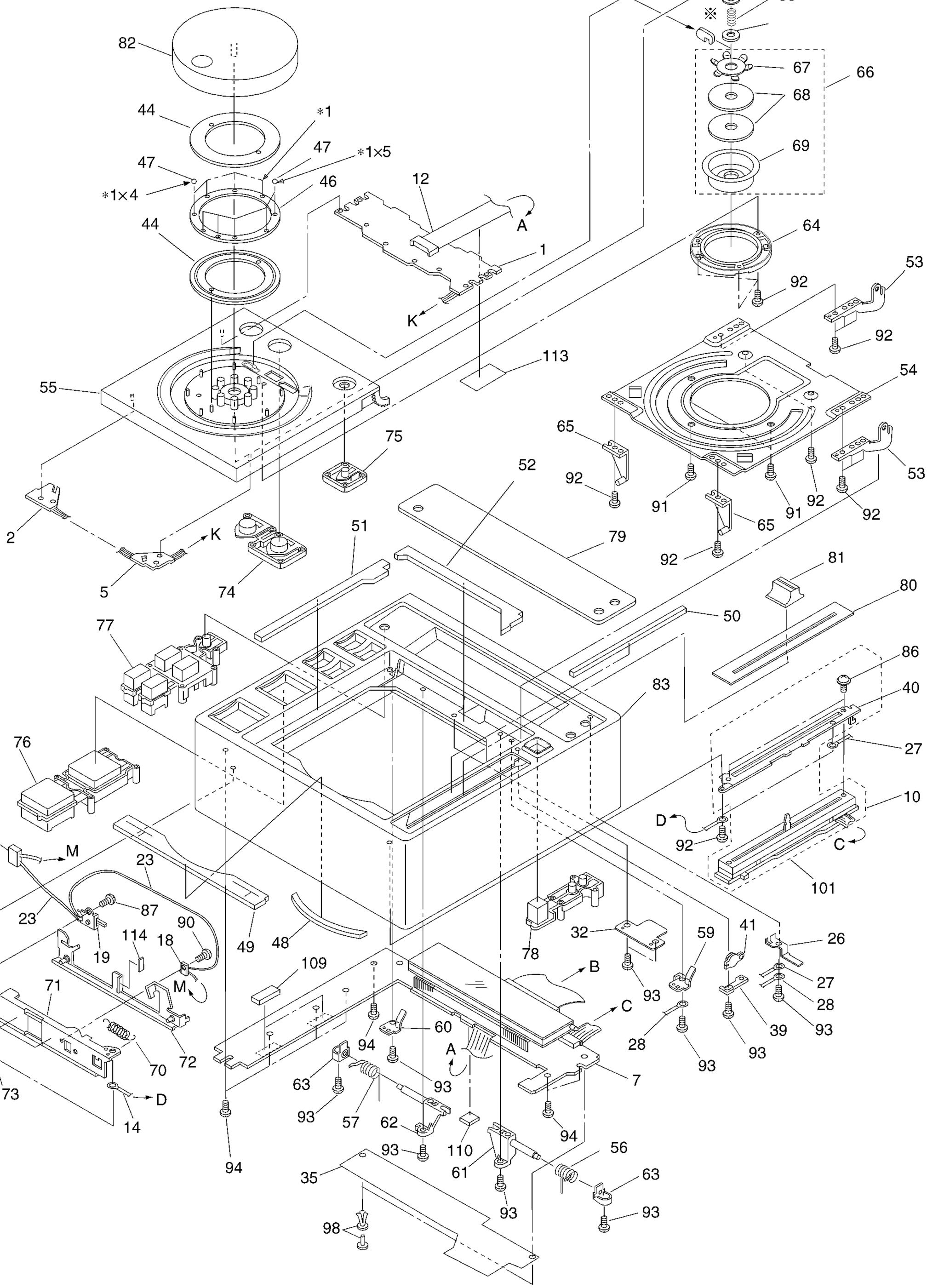
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | Control Cable | PDE1247 |
| | 2 | Audio Cable | VDE1033 |
| | 3 | Spacers for Rack Mounting | DLA1837 |
| | 4 | Operating Instructions | See Contrast table (2) |
| | 5 | ..... | |
| | 6 | Polyethylene Bag (0.03×230×340) | Z21 – 038 |
| | 7 | Pad (A) | DHA1390 |
| | 8 | Pad (B) | DHA1391 |
| | 9 | Packing Case | See Contrast table (2) |
| | 10 | Polyethylene Bag | DHL1106 |
| | 11 | Seat (550×550×0.5) | Z23 – 026 |
| | 12 | ..... | |
| | 13 | ..... | |
| NSP | 14 | Polyethylene Bag (50×70×0.03) | Z21 – 002 |
| | 15 | Screw for Rack Mounting | IBZ30P100FCC |
| | 16 | Pad (C) | DHA1400 |
| | 17 | Silicagel | AEN7001 |
| | 18 | Caution SG | DRM1199 |

### (2) CONTRAST TABLE

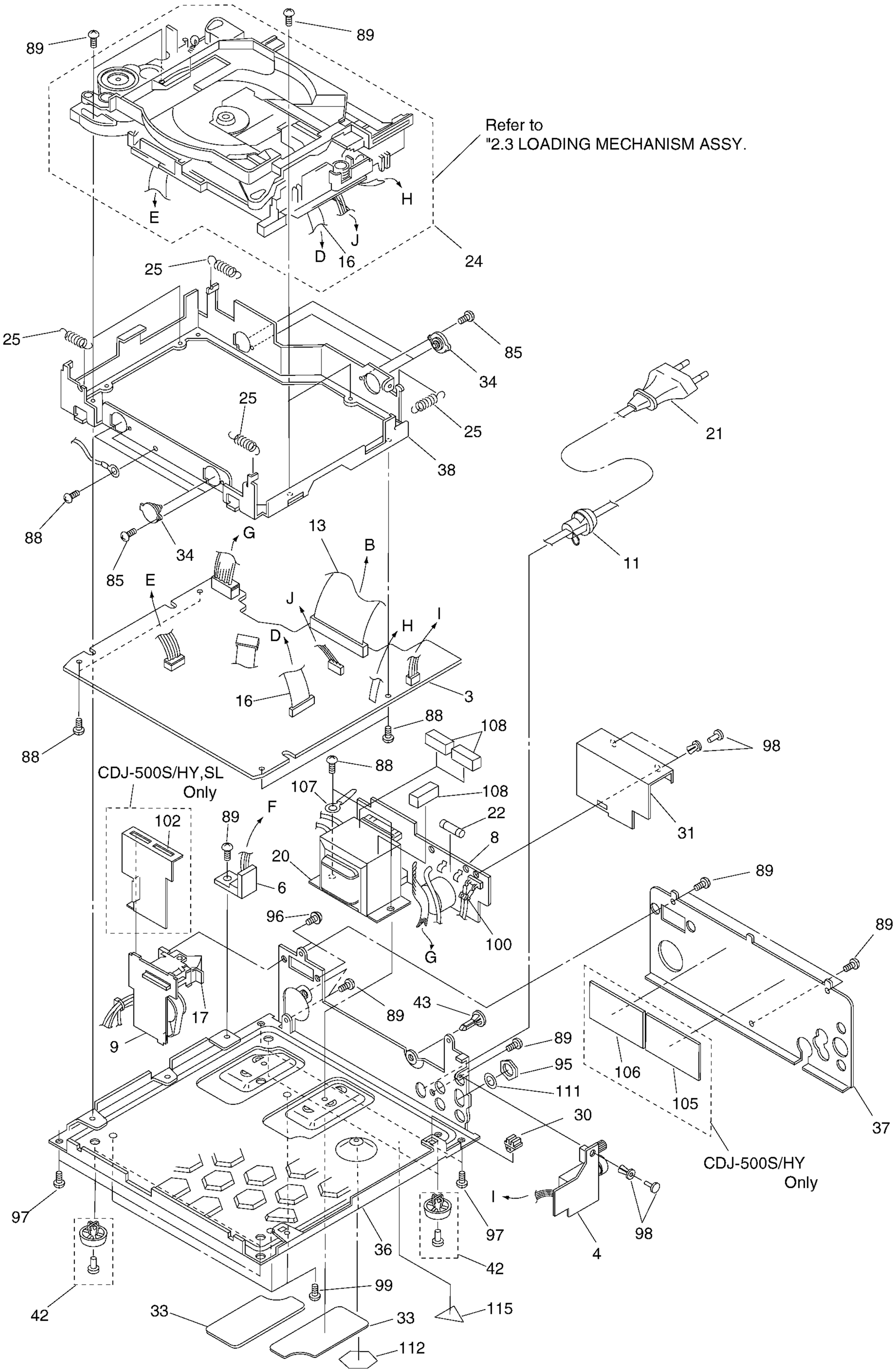
CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

| Mark | No. | Symbol and Description | Part No. | | | Remarks |
|---|---|---|---|---|---|---|
| | | | CDJ-700S/KUC | CDJ-500S/HY | CDJ-500S/SL | |
| | 4 | Operating Instructions (English) | DRB1215 | Not used | Not used | |
| | 4 | Operating Instructions (English/French/German/Italian/Dutch/Spanish) | Not used | DRB1214 | Not used | |
| | 4 | Operating Instructions (English/Spanish/Chinese) | Not used | Not used | DRB1220 | |
| | 9 | Packing Case | DHG1783 | DHG1785 | DHG1784 | |

## 2.2 EXTERIOR


※ Attached parts No55.
82
44
*1
47
47
*1×5
*1×4
46
12
A
1
K
44
113
55
75
2
K
5
74
51
52
79
77
50
81
80
86
40
83
27
76
10
D
92
C
15
M
101
23
23
87
90
114
18
19
49
48
78
32
59
41
26
27
28
39
93
109
B
C
71
M
60
94
A
70
72
63
93
7
73
D
93
57
62
93
110
61
56
63
14
94
35
93
93
98

# CDJ-700S,CDJ-500S



## (1) EXTERIOR SECTION PARTS LIST

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| NSP | 1 | DOOR BOARD ASSY | DWS1289 |
| NSP | 2 | LED B BOARD ASSY | DWX1819 |
| | 3 | MAIN BOARD ASSY | DWX1821 |
| | 4 | H.P BOARD ASSY | DWX1822 |
| NSP | 5 | LED A BOARD ASSY | DWX1824 |
| NSP | 6 | REGULATOR BOARD ASSY | DWX1825 |
| | 7 | FUNCTION BOARD ASSY | DWG1497 |
| NSP | 8 | TRANS BOARD ASSY | See Contrast table (2) |
| NSP | 9 | POWER SW BOARD ASSY | See Contrast table (2) |
| NSP | 10 | SLIDER BOARD ASSY | DWX1823 |
| | 11 | Cord Stopper | See Contrast table (2) |
| | 12 | 12P F.F.C/60V | DDD1118 |
| | 13 | 38P F.F.C/60V | DDD1119 |
| NSP | 14 | Cord With Plug | DE005VF0 |
| | 15 | Connector Assembly | DKP3368 |
| | 16 | S Flexible L | DNP1811 |
| ⚠ | 17 | S1 Switch | DSA1024 |
| | 18 | Push Switch | DSG1012 |
| | 19 | Lever Switch | DSK1003 |
| ⚠ | 20 | Power Transformer | See Contrast table (2) |
| ⚠ | 21 | AC Power Cord | See Contrast table (2) |
| ⚠ | 22 | FU1 Fuse | See Contrast table (2) |
| NSP | 23 | UL1571, AWG28 | ZWNP1571G – 28 – 4 – 14A |
| NSP | 24 | Loading Mechanism Assy | DXA1830 |
| | 25 | Float Spring | DBH1382 |
| | 26 | VR Spring | DBK1088 |
| | 27 | Earth Lead Unit | DDF1010 |
| | 28 | Earth Lead Unit | DDF1011 |
| | 29 | ..... | |
| | 30 | Assy Table | DEC1231 |
| | 31 | AC Cover | DEC2131 |
| | 32 | Flexible Cover | DEC2133 |
| | 33 | Bottom Cover | DEC2134 |
| | 34 | Damper | DEC2136 |
| | 35 | Connector Cover | DEC2138 |
| NSP | 36 | Chassis | DNA1220 |
| NSP | 37 | Rear Panel | See Contrast table (2) |
| | 38 | Mechanism Base | DNF1572 |
| | 39 | Damper Plate | DNF1574 |
| | 40 | VR Plate | DNF1575 |
| | 41 | Gear Damper | DXB1648 |
| | 42 | Foot | REC – 434 |
| | 43 | Locking Card Spacer | VEC1596 |
| | 44 | Thrust Stay | DNH2288 |
| | 45 | Smoother | DNK2933 |
| | 46 | Retainer | DNK3430 |
| | 47 | Ball | VNX1006 |
| | 48 | Guide Cushion | DEC2161 |
| | 49 | Air Seal A | See Contrast table (2) |
| | 50 | Air Seal B | See Contrast table (2) |
| | 51 | Air Seal C | See Contrast table (2) |
| | 52 | Air Seal D | See Contrast table (2) |
| | 53 | Door Arm | DNF1573 |
| | 54 | Door Cover | DNH2287 |
| | 55 | Door | DNK3435 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 56 | Door Spring A | DBH1379 |
| | 57 | Door Spring B | DBH1396 |
| | 58 | J Spring | DBH1385 |
| | 59 | Door Stopper A | DNF1576 |
| | 60 | Door Stopper B | DNF1577 |
| | 61 | Door Shaft Holder A | DNK3431 |
| | 62 | Door Shaft Holder B | DNK3432 |
| | 63 | Door Shaft Holder C | DNK3436 |
| | 64 | Clamper Cover | DNK3442 |
| | 65 | Roller Holder Assy | DXB1645 |
| | 66 | Clamper Assy | DXB1655 |
| NSP | 67 | Clamper Plate | DNE1289 |
| NSP | 68 | Weight | DNH2300 |
| NSP | 69 | Clamper | DNK3439 |
| | 70 | Lock Hook Spring | DBH1383 |
| | 71 | Lock Hook Plate | DNH2286 |
| | 72 | Lock Hook Assy | DXB1647 |
| | 73 | Damp Sheet | VEX1021 |
| | 74 | Loop Knob | DAC1878 |
| | 75 | Reloop Knob | DAC1879 |
| | 76 | Knob A | DAC1880 |
| | 77 | Knob B | DAC1881 |
| | 78 | Knob C | DAC1882 |
| | 79 | Display Plate | DAH1854 |
| | 80 | Slide Sheet | DAH1855 |
| | 81 | Slide Knob | DNK2936 |
| | 82 | Jog Dial | DNK3438 |
| | 83 | Control Panel | See Contrast table (2) |
| | 84 | 65 Label | See Contrast table (2) |
| | 85 | Screw | AMZ20P040FMC |
| | 86 | Screw | AMZ30P040FMC |
| | 87 | Screw | BBZ26P060FMC |
| | 88 | Screw | BBZ30P060FMC |
| | 89 | Screw | BBZ30P080FZK |
| | 90 | Screw | BMZ20P060FMC |
| | 91 | Screw | BPZ26P060FNI |
| | 92 | Screw | BPZ26P080FZK |
| | 93 | Screw | BPZ30P060FZK |
| | 94 | Screw | BPZ30P080FMC |
| | 95 | Nut | NKX2FUC |
| | 96 | Screw | PMH30P060FMC |
| | 97 | Screw | PPZ30P080FZK |
| | 98 | Rivet | RBM – 003 |
| | 99 | Screw | BBZ30P040FCC |
| | 100 | Binder | ZCA – SKB90BK |
| | 101 | Slider Assy-s | DXX2396 |
| | 102 | Switch Cover | See Contrast table (2) |
| | 103 | ..... | |
| | 104 | ..... | |
| | 105 | Caution Label (HE) | See Contrast table (2) |
| | 106 | Caution Label | See Contrast table (2) |
| NSP | 107 | Binder | ZCB – 4772B |
| | 108 | Stop Cushion B | DEC2199 |
| | 109 | Knob Cushion | DEC2180 |
| | 110 | Stop Cushion A | DEC2184 |

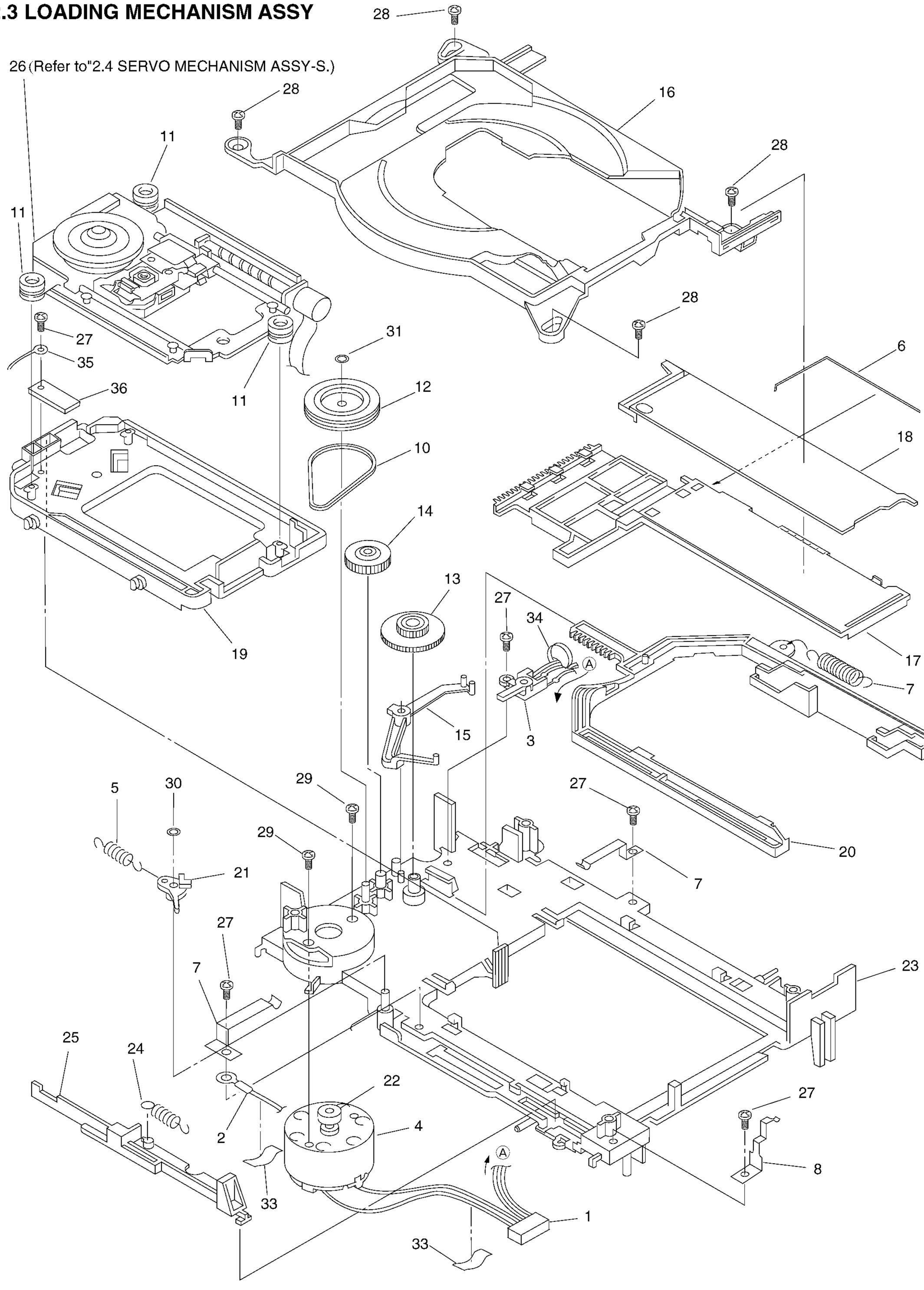
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 111 | Washer | DBE1010 |
| | 112 | Bottom Cover B | DEC2192 |
| | 113 | TAPE (BLACK) | DEH1016 |
| | 114 | Hook Stopper | DEB1376 |
| | 115 | IBM Label | DRW1566 |

## (2) EXTERIOR SECTION CONTRAST TABLE

CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

| Mark | No. | Symbol and Description | Part No. | | | Remarks |
|---|---|---|---|---|---|---|
| | | | CDJ-700S/KUC | CDJ-500S/HY | CDJ-500S/SL | |
| NSP | 8 | TRANS BOARD ASSY | DWR1284 | DWR1286 | DWR1286 | |
| NSP | 9 | POWER SW BOARD ASSY | DWS1290 | DWS1287 | DWS1286 | |
| ⚠ | 11 | Cord Stopper | CM – 22C | CM – 22B | CM – 22B | |
| ⚠ | 20 | Power Transformer (AC120V) | DTT1144 | Not used | Not used | |
| ⚠ | 20 | Power Transformer (AC220 – 230V/240V) | Not used | DTT1146 | Not used | |
| ⚠ | 20 | Power Transformer (AC110V/120V/220 – 230V/240V) | Not used | Not used | DTT1143 | |
| ⚠ | 21 | AC Power Cord | PDG1015 | PDG1003 | PDG1003 | |
| ⚠ | 22 | FU1 Fuse (500mA) | VEK1009 | Not used | Not used | |
| ⚠ | 22 | FU1 Fuse (T250mA) | Not used | AEK1048 | AEK1048 | |
| | 37 | Rear Panel | DNC1458 | DNC1460 | DNC1459 | |
| | 49 | Air Seal A | DEC2197 | Not used | Not used | |
| | 49 | Air Seal E | Not used | DEC2198 | DEC2198 | |
| | 50 | Air Seal B | DEC2193 | Not used | Not used | |
| | 50 | Air Seal F | Not used | DEC2195 | DEC2195 | |
| | 51 | Air Seal C | DEC2194 | Not used | Not used | |
| | 51 | Air Seal G | Not used | DEC2196 | DEC2196 | |
| | 52 | Air Seal D | DEC2175 | Not used | Not used | |
| | 52 | Air Seal H | Not used | DEC2179 | DEC2179 | |
| | 83 | Control Panel | DNK3471 | DNK3437 | DNK3437 | |
| | 84 | 65 Label | ORW1069 | Not used | Not used | |
| | 102 | Switch Cover | Not used | DEC2137 | DEC2137 | |
| | 105 | Caution Label (HE) | Not used | VRW1297 | Not used | |
| | 106 | Caution Label | Not used | VRW1094 | Not used | |

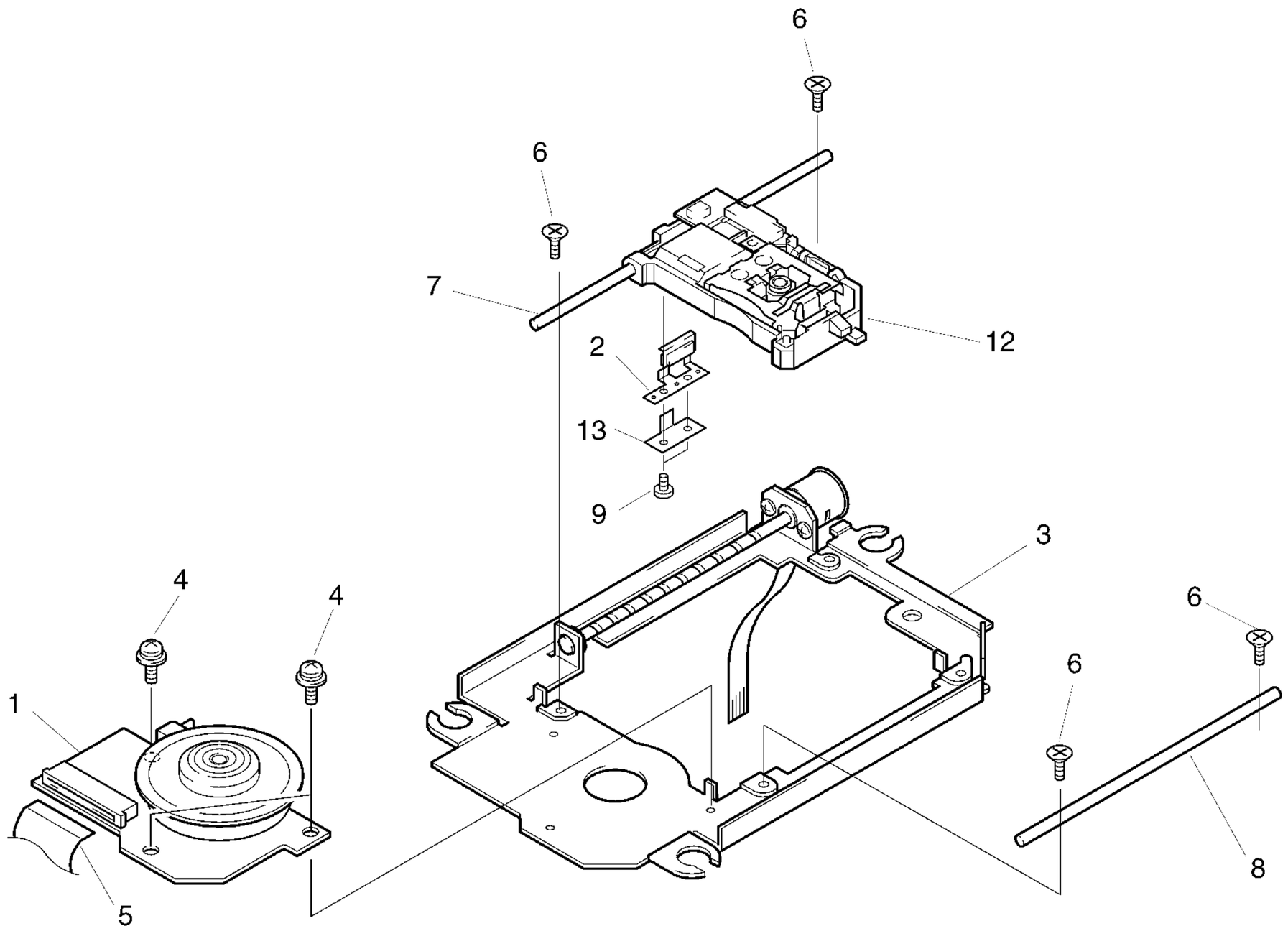
## 2.3 LOADING MECHANISM ASSY



## ● LOADING MECHANISM ASSY SECTION PARTS LIST

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| NSP | 1 | Connector Assembly | DDE1111 |
| | 2 | Cord With Plug | DDF1010 |
| | 3 | Lever Switch | DSK1003 |
| | 4 | DC Motor/0.75W | PXM1010 |
| | 5 | Cancel Lever Spring | DBH1386 |
| | 6 | Spring | DBH1388 |
| | 7 | Mechanism Stopper Spring A | DBK1135 |
| | 8 | Mechanism Stopper Spring B | DBK1136 |
| | 9 | ..... | |
| | 10 | Belt | DEB1316 |
| | 11 | Mount Bush | DEB1328 |
| | 12 | Gear Pulley | DNK3099 |
| | 13 | Drive Gear | DNK3100 |
| | 14 | Loading Gear | DNK3101 |
| | 15 | SW Lever | DNK3425 |
| | 16 | Tray | DNK3426 |
| | 17 | Shatter A | DNK3427 |
| | 18 | Shatter B | DNK3428 |
| | 19 | Servo Mechanism Base | DNK3429 |
| | 20 | Drive Cam | DNK3433 |
| | 21 | Cancel Lever | DNK3440 |
| | 22 | Pulley | DNK3444 |
| | 23 | Loading Base Assy | DXB1646 |
| | 24 | Drive Lever Spring | DBH1384 |
| | 25 | Hook Drive Lever | DNK3434 |
| | 26 | Servo Mechanism Assy – S | DXX2409 |
| | 27 | Screw | BPZ26P060FZK |
| | 28 | Screw | BPZ30P080FMC |
| | 29 | Screw | PMZ26P040FMC |
| | 30 | Washer | WT16D032D025 |
| | 31 | Washer | WT21D050D050 |
| | 32 | Screw | IBZ30P060FMC |
| | 33 | Tape | DEC1204 |
| | 34 | Binder | ZCA – SKB90BK |
| | 35 | Earth Lead Unit | DDF1010 |
| | 36 | Schlegel S | DEC2181 |
| | 37 | Came Spring | DBH1395 |

## 2.4 SERVO MECHANISM ASSY-S



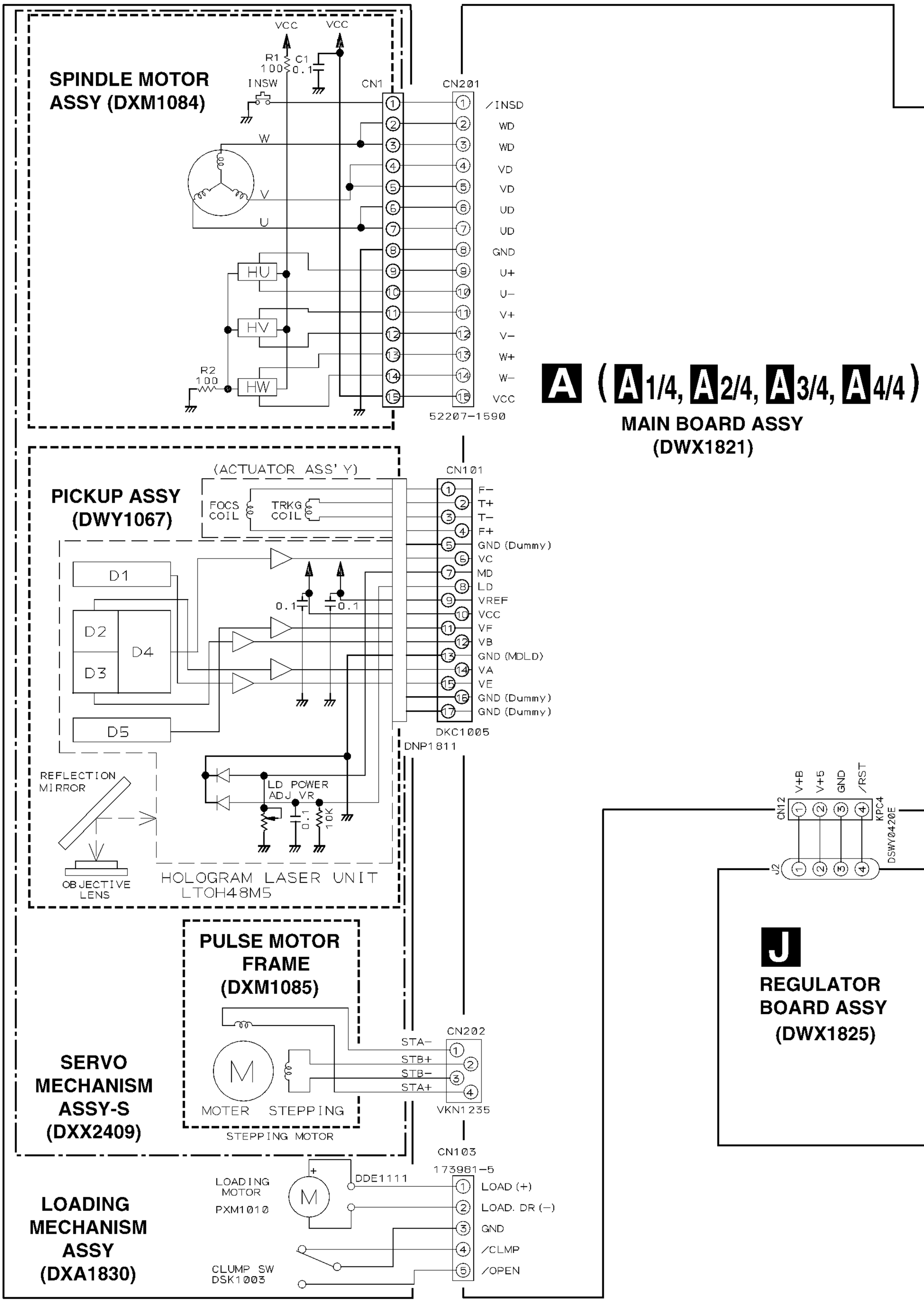

### ● PARTS LIST

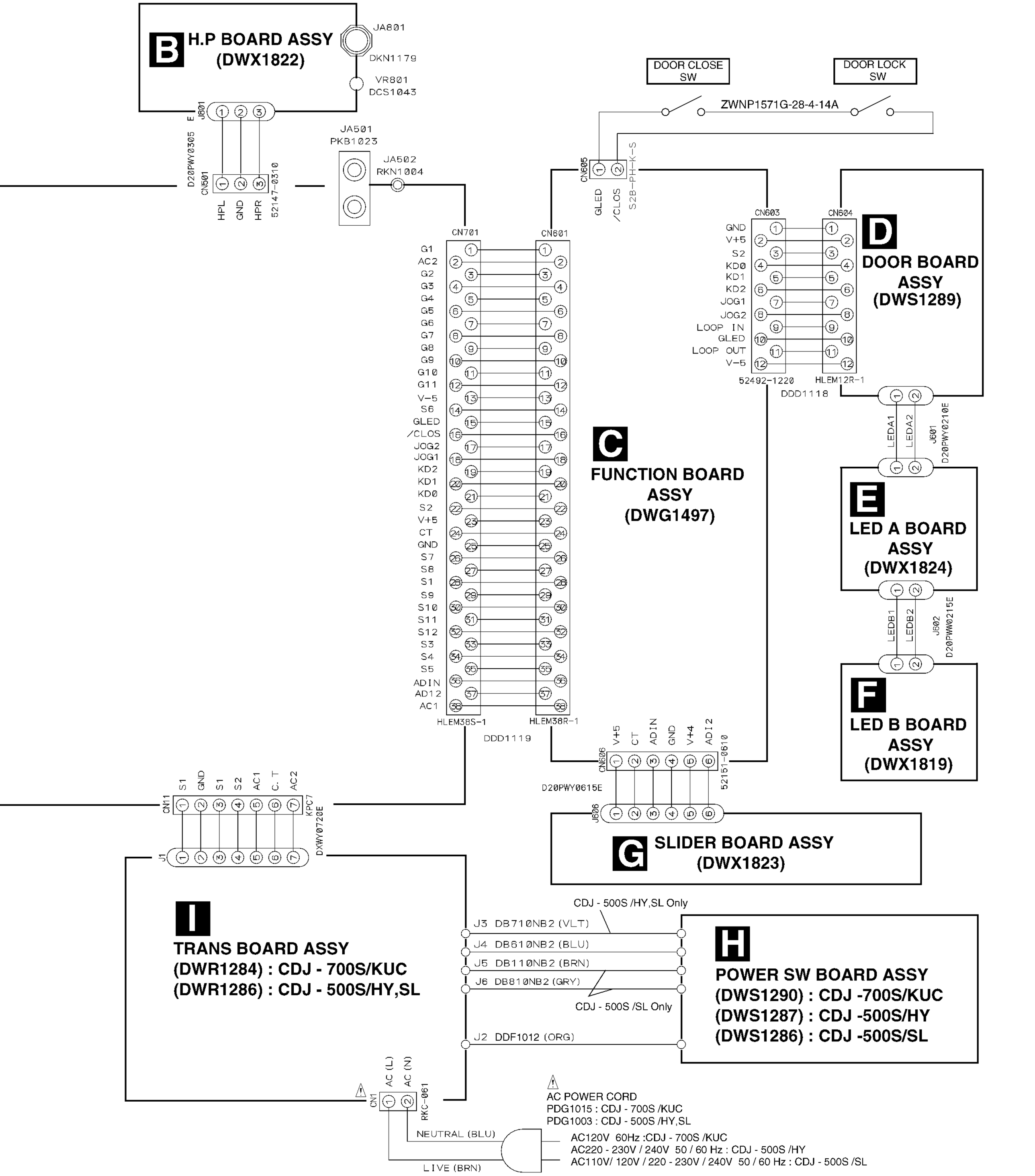
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | Spindle motor assy | DXM1084 |
| | 2 | Screw guide | DNK3238 |
| | 3 | Pulsemotor frame | DXM1085 |
| | 4 | Screw | PMH20P040FMC |
| | 5 | SPD Card | DDX1165 |
| | 6 | Screw | CMZ20P060FMC |
| | 7 | Guide shaft | DLA1731 |
| | 8 | Sub guide shaft | DLA1372 |
| | 9 | Screw | ABA7022 |
| | 10 | ..... | |
| | 11 | ..... | |
| NSP | 12 | Pickup assy | DWY1067 |
| | 13 | Guide spring | DBK1122 |

# 3. SCHEMATIC DIAGRAM

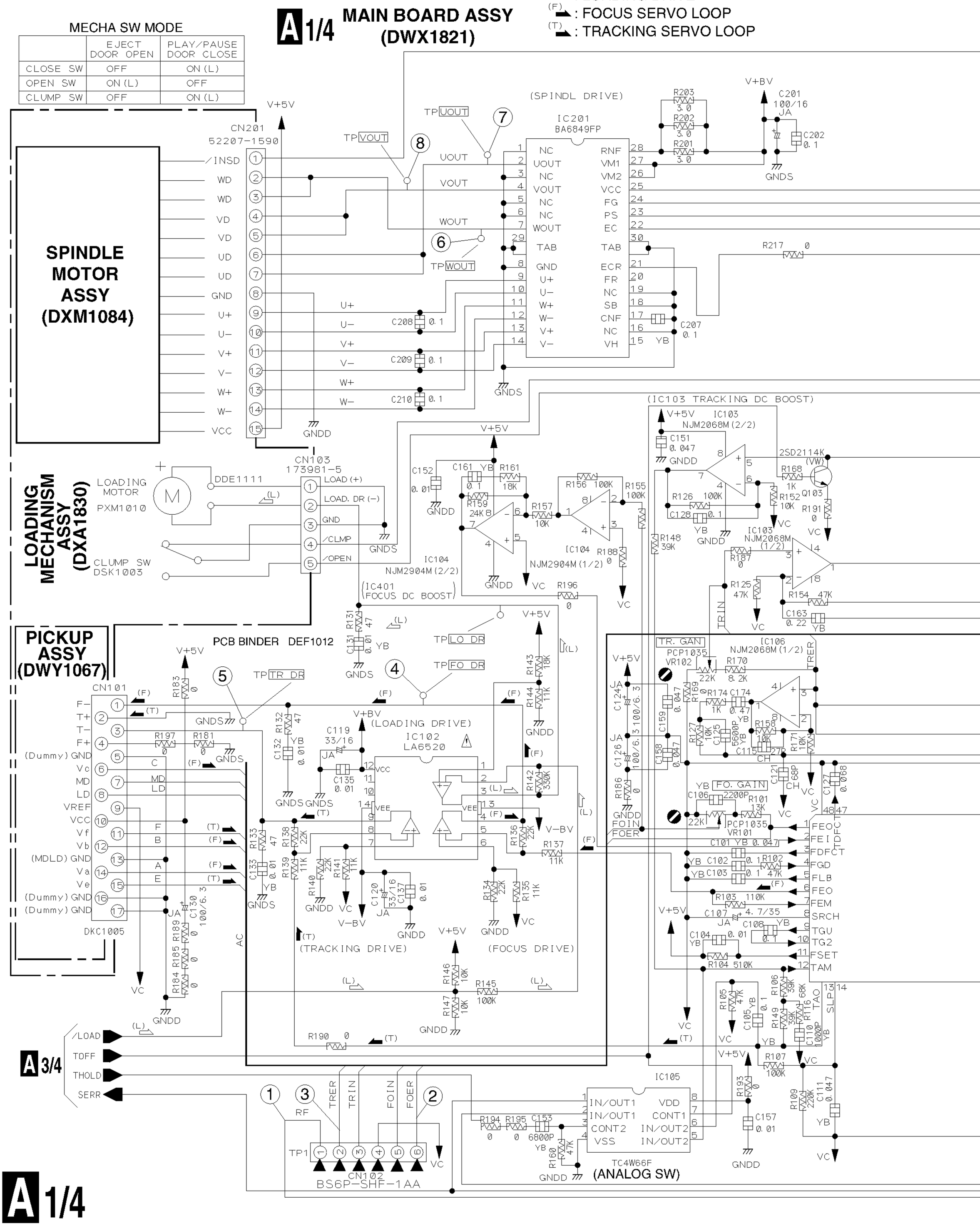
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

## 3.1 OVERALL CONNECTION DIAGRAM




B
H.P BOARD ASSY
(DWX1822)
JA801
DKN1179
VR801
DCS1043
J801
E
D20PWY0305
CN501
HPL
GND
HPR
52147-0310
JA501
PKB1023
JA502
RKN1004
CN701
CN601
G1
AC2
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
V-5
S6
GLED
/CLOS
JOG2
JOG1
KD2
KD1
KD0
S2
V+5
CT
GND
S7
S8
S1
S9
S10
S11
S12
S3
S4
S5
ADIN
AD12
AC1
HLEM38S-1
HLEM38R-1
DDD1119
DOOR CLOSE SW
DOOR LOCK SW
ZWNP1571G-28-4-14A
CN605
GLED
/CLOS
S2B-PH-K-S
CN603
CN604
GND
V+5
S2
KD0
KD1
KD2
JOG1
JOG2
LOOP IN
GLED
LOOP OUT
V-5
52492-1220
HLEM12R-1
DDD1118
D
DOOR BOARD
ASSY
(DWS1289)
LEDA1
LEDA2
J601
D20PWY0210E
E
LED A BOARD
ASSY
(DWX1824)
LEDB1
LEDB2
J602
D20PWW0215E
F
LED B BOARD
ASSY
(DWX1819)
C
FUNCTION BOARD
ASSY
(DWG1497)
CN606
V+5
CT
ADIN
GND
V+4
ADI2
52151-0610
D20PWY0615E
J606
G
SLIDER BOARD ASSY
(DWX1823)
CN11
S1
GND
S1
S2
AC1
C. T
AC2
KPC7
DXWY0720E
J1
I
TRANS BOARD ASSY
(DWR1284) : CDJ - 700S/KUC
(DWR1286) : CDJ - 500S/HY,SL
CDJ - 500S /HY,SL Only
J3 DB710NB2 (VLT)
J4 DB610NB2 (BLU)
J5 DB110NB2 (BRN)
J6 DB810NB2 (GRY)
CDJ - 500S /SL Only
J2 DDF1012 (ORG)
H
POWER SW BOARD ASSY
(DWS1290) : CDJ -700S/KUC
(DWS1287) : CDJ -500S/HY
(DWS1286) : CDJ -500S/SL
CN1
AC (L)
AC (N)
RKC-061
NEUTRAL (BLU)
LIVE (BRN)
AC POWER CORD
PDG1015 : CDJ - 700S /KUC
PDG1003 : CDJ - 500S /HY,SL
AC120V 60Hz :CDJ - 700S /KUC
AC220 - 230V / 240V 50 / 60 Hz : CDJ - 500S /HY
AC110V/ 120V / 220 - 230V / 240V 50 / 60 Hz : CDJ - 500S /SL

## 3.2 MAIN BOARD ASSY(1/4)



Note :Chip

RESISTOR
No mark :Carbon film resistor (Ω)
No mark :1/10W

COIL
No mark :LAU (H)
LC :LCTA (H)

CAPACITOR
No mark electrolytic :CEAS (μF)
JA :CEJA (F)
No mark ceramic :CKSQYF (μF)
YB :CKSQYB (μF)
TL :CFTLA (μF)
CH :CCSQCH (F)

A 3/4 /INSD FG AA LDON FOK DATA

A 2/4 EMPH C16M BCLK DAT1 LRCK

IC301
CXD2500BQ
(DECODER)

IC101
CXA1782CQ
(SERVO CONTROL)

IC302
BA7042
(VCO)

[IC303
TC7SU04F
(INVERTER)

IC107
TC4W53F
(ANALOG SW)

[IC106
NJM2068M
(IC106 TZC AMP)

Q102
DTA124EK
(LD ON)

VSS1084
16.9344MHz

A 3/4 ATB2

A 3/4 S1TJ

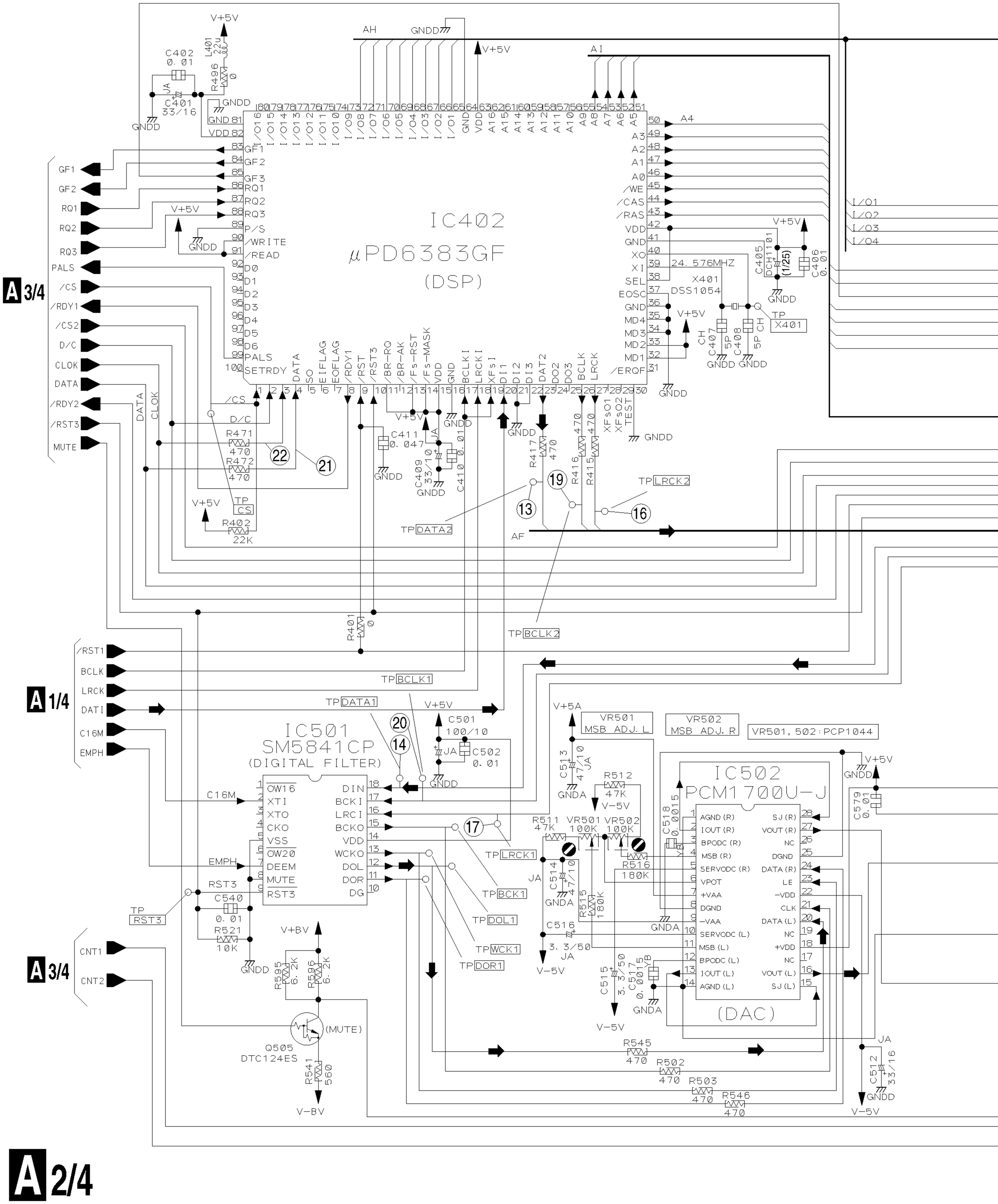
A 4/4 /RST

A 2/4 /RST1

## 3.3 MAIN BOARD ASSY(2/4) AND H.P BOARD ASSY

**A 2/4 MAIN BOARD ASSY (DWX1821)**

SIGNAL ROUTE
➡: RF & AUDIO SIGNAL



Note ⊏⊐ ⌈⌉ :Chip

RESISTOR
No mark :Carbon film resistor (Ω)
No mark :1/4W
:1/10W
VM :RD1/4VM (Ω)
COIL
No mark :LAU (H)

CAPACITOR
No mark electrolytic :CEAS (μF)
JA :CEJA (μF)
No mark ceramic :CKSQYF (μF)
YB :CKSQYB (μF)
CH :CCSQCH (F)
M :CQMA (μF)

IC403
μPD6383GF
(DSP)

IC404
HM514800CJ-7
(DRAM)

IC409
LH52256AN-70LL
(SRAM)

IC505 (1/2) NJM4558MD
IC505 (2/2) NJM4558MD
(IC505 LPF)

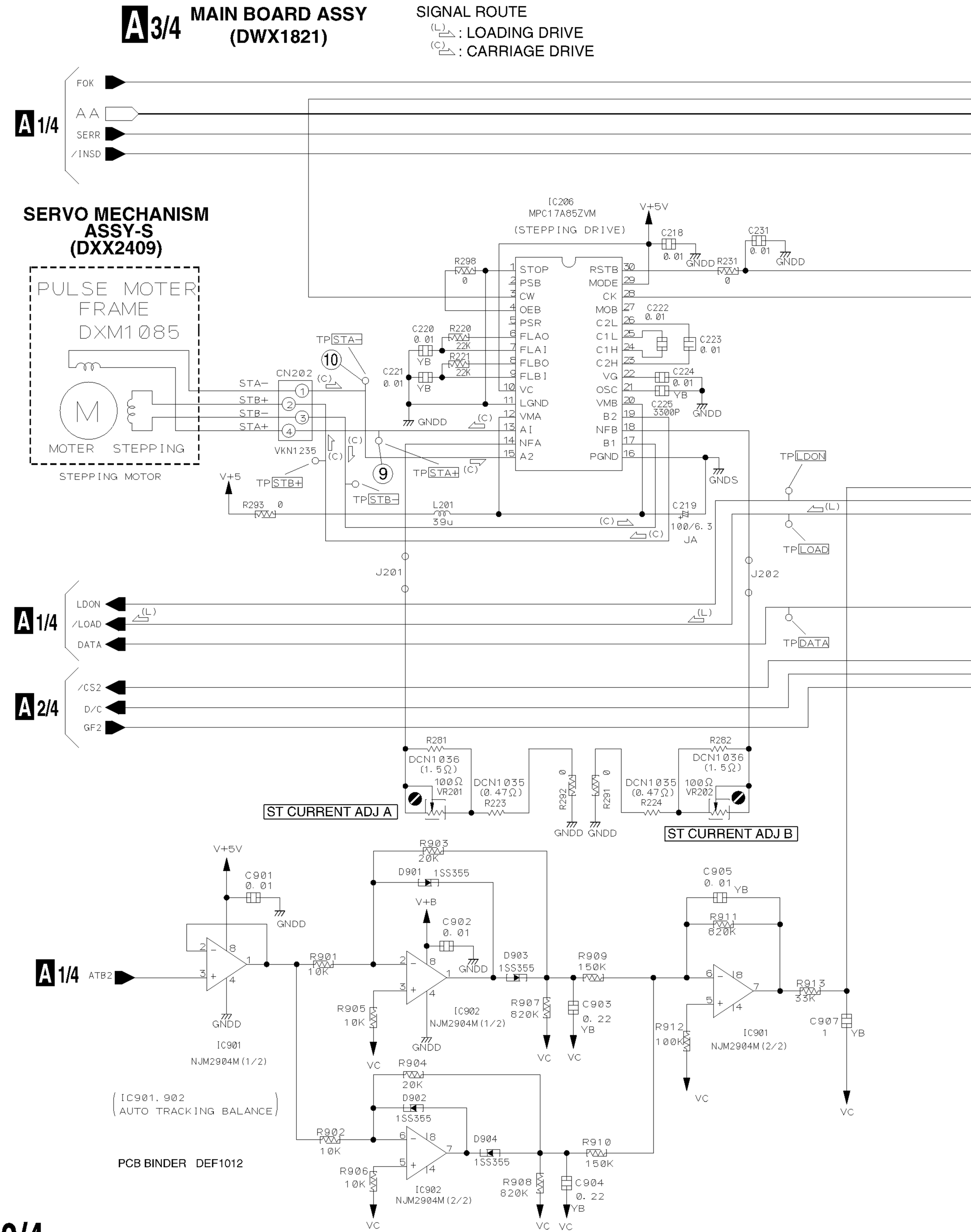
IC801 (1/2) NJM4556AM
IC801 (2/2) NJM4556AM
(HP AMP)

Q501 2SD2144S (UV)
Q502 2SD2144S (UV)
Q503 2SD2144S (UV)
Q504 2SD2144S (UV)

CN501 52147-0310
J801 D20PWY0305E

**B**
**H.P BOARD ASSY**
**(DWX1822)**

## 3.4 MAIN BOARD ASSY(3/4)



Note

□□ [ ] : Chip

RESISTOR

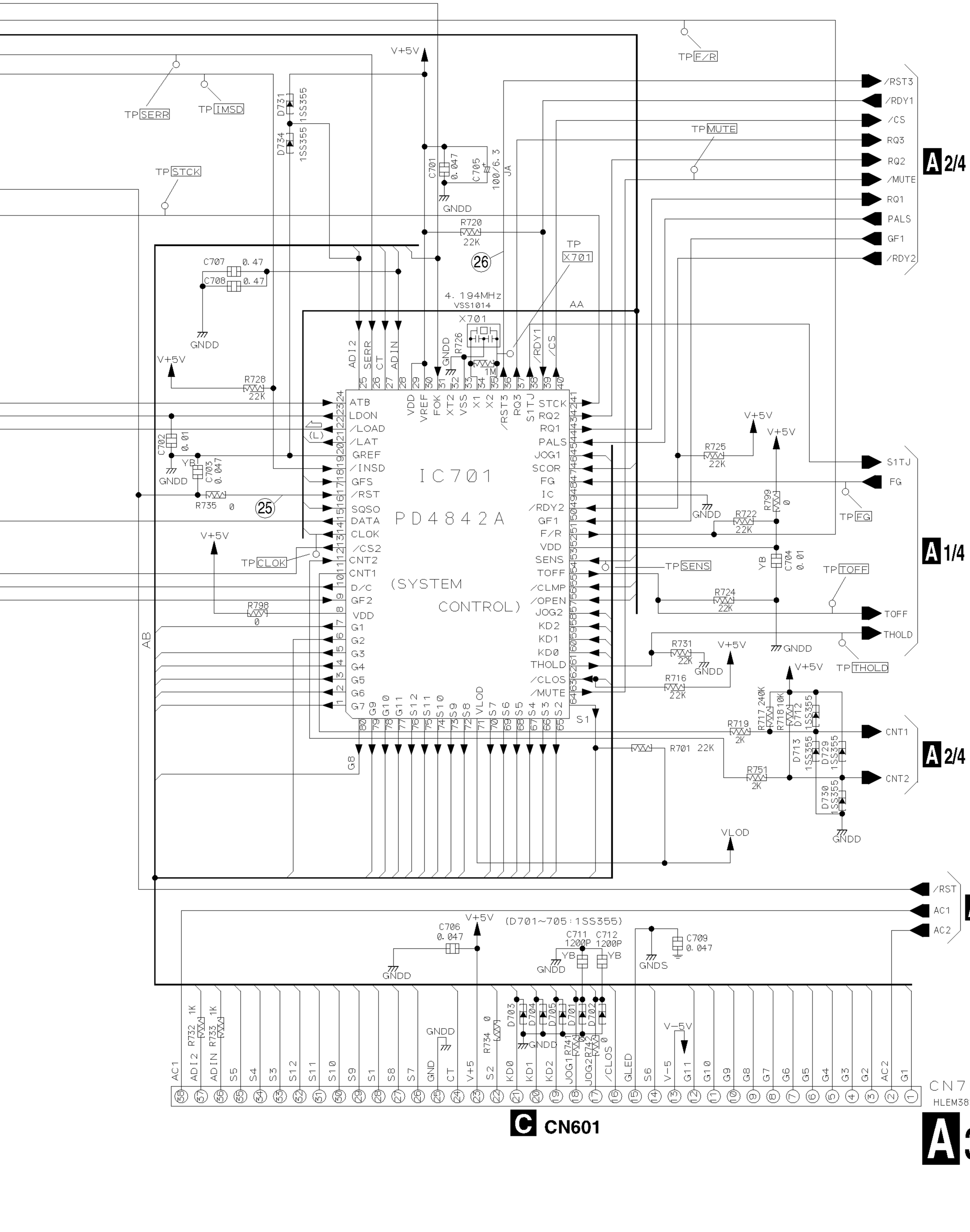
No mark : Carbon film resistor (Ω)
No mark : 1/4W
: 1/10W

COIL

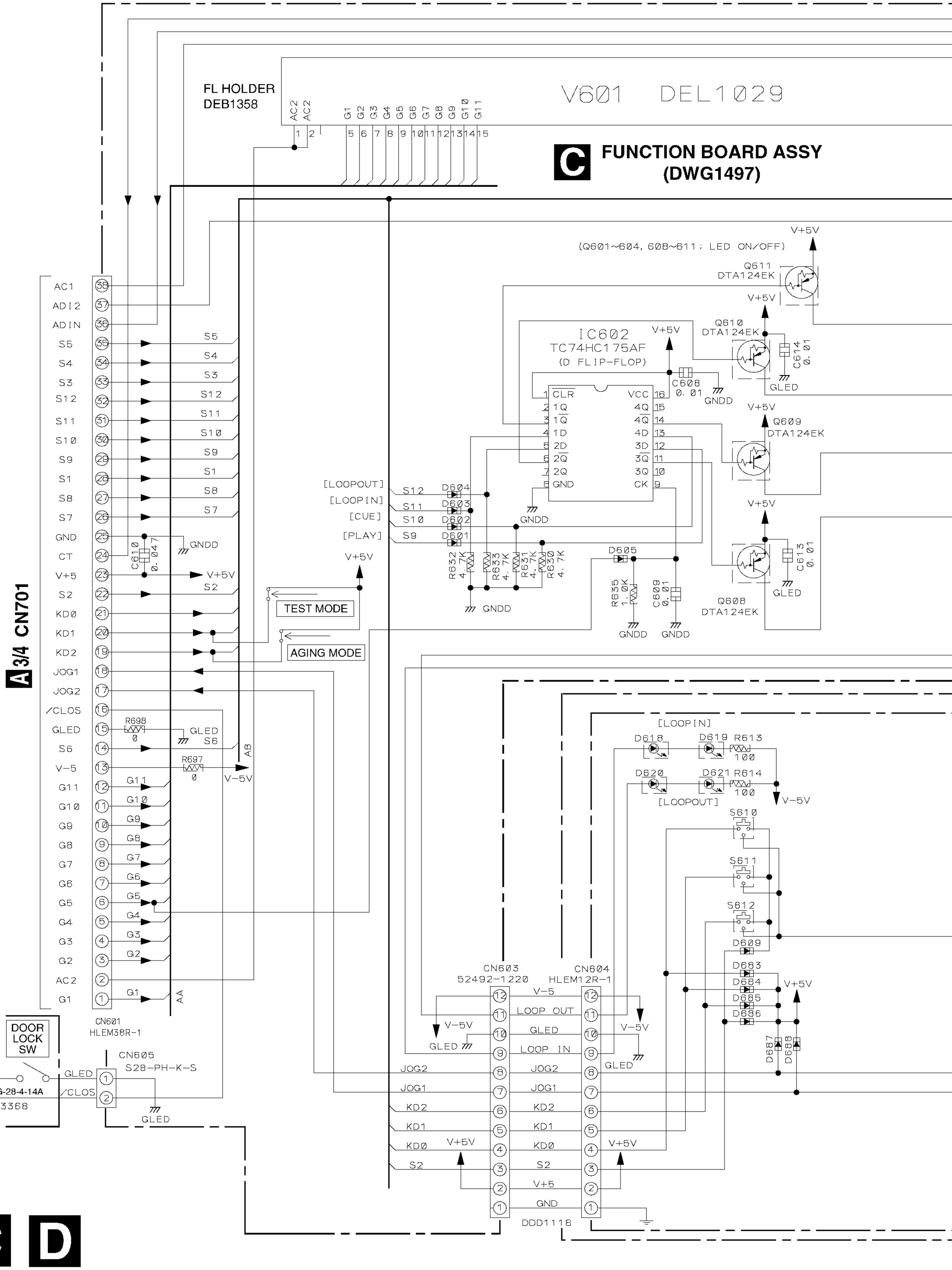
No mark : LAU (H)

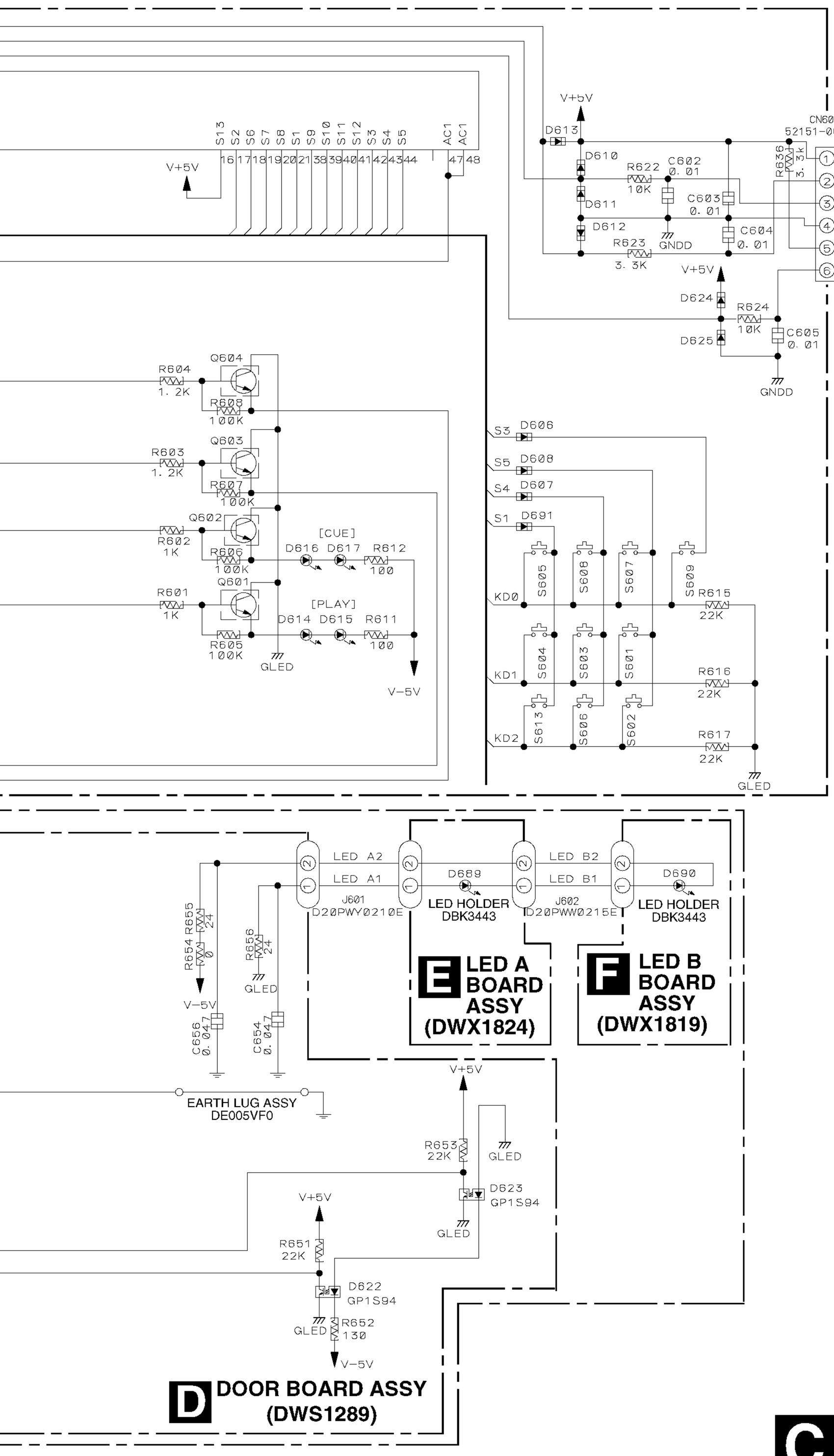
CAPACITOR

No mark electrolytic : CEJA (μF)
No mark ceramic : CKSQYF (μF)
YB : CKSQYB (μF)



## 3.5 FUNCTION BOARD ASSY, DOOR BOARD ASSY, LED A BOARD ASSY, LED B BOARD ASSY AND SLIDER BOARD ASSY






Note

SWITCH

| | | |
|---|---|---|
| S601 S602 S604 S605 | | RSG1030 |
| S603 | S606 | DSG1056 |
| S607 S609 | S608 S613 | PSG1006 |
| S610 S611 | S612 | DSG1061 |

DIODE

| | |
|---|---|
| D614, D615 | GL5EG8 |
| D616, D617 | GL5HY8 |
| D618~D621 | LT1H40A |
| D689, D690 | MPY4361F |
| No Mark | 1SS355 |

TRANSISTOR

| | |
|---|---|
| Q601~Q604 | 2SC2412K (R/S) |
| Q608~Q611 | DTA124EK |

CAPACITOR No mark : μF

| | |
|---|---|
| No mark ceramic | CKSQYF |

RESISTOR Ω

| | |
|---|---|
| No mark | Carbon film resistor |
| No mark | 1/10W |

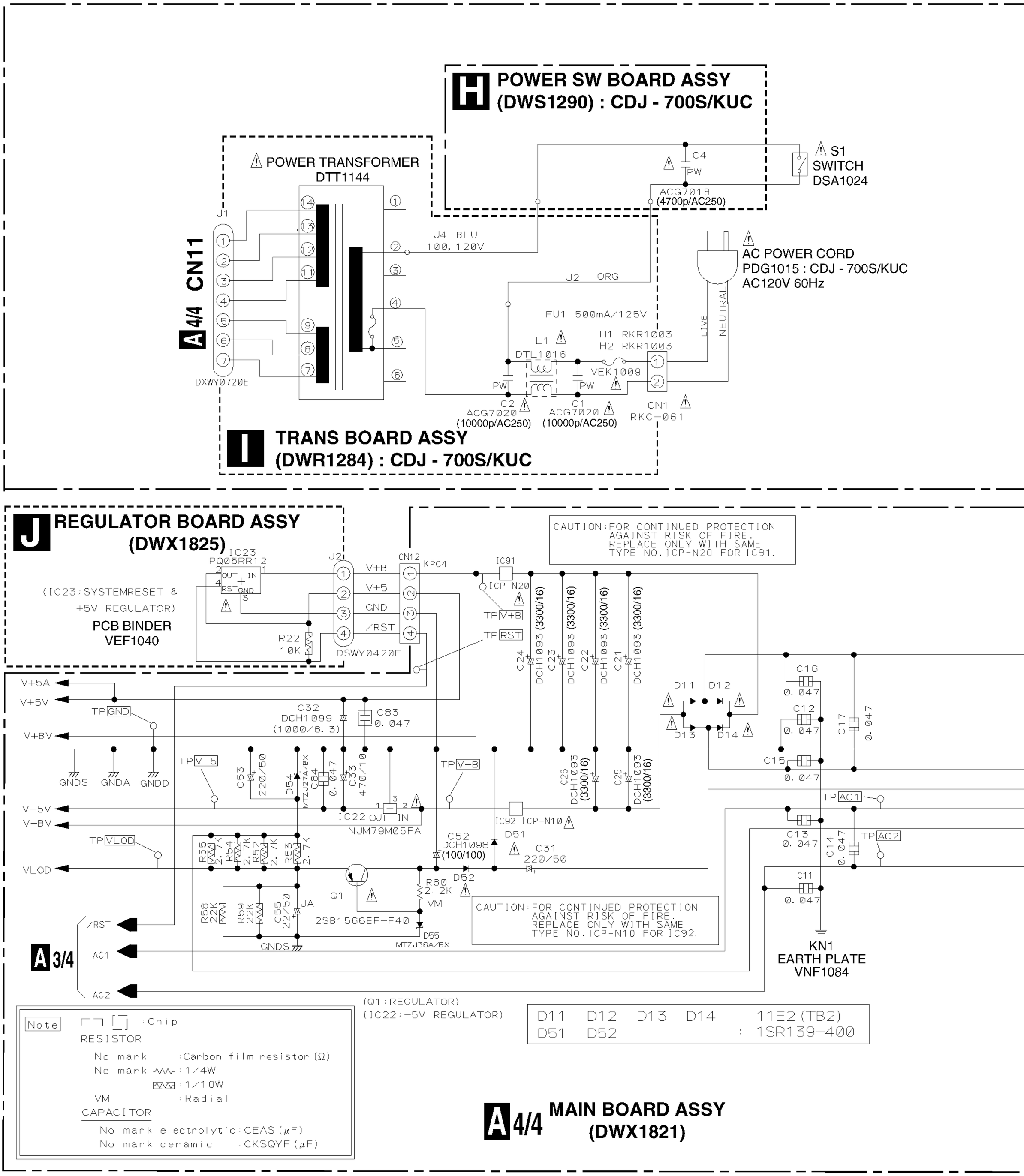
COIL

| | |
|---|---|
| No mark | LCTA (H) |

FUNCTION BOARD ASSY
S601 : TRKB
S602 : SCNB
S603 : PLAY
S604 : TRKF
S605 : SCNF
S606 : CUE
S607 : TEMPO
S608 : MASTER T.
S609 : EJECT
S613 : TIME

DOOR BOARD ASSY
S610 : LOOPIN
S611 : LOOPOUT
S612 : RELOOP

## 3.6 MAIN BOARD ASSY(4/4), POWER SW BOARD ASSY, TRANS BOARD ASSY AND REGULATOR BOARD ASSY



● NOTE FOR FUSE REPLACEMENT

CAUTION — FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

## VOLTAGES (V) OF MAIN BOARD ASSY SECTION

Note : Voltages are in the PLAY mode.

IC101 (CXA1782CQ)

| | |
|---|---|
| 1 | +2.4 |
| 2 | +2.5 |
| 3 | +2.4 |
| 4 | +2.5 |
| 5 | +2.4 |
| 6 | +2.4 |
| 7 | +2.5 |
| 8 | +2.7 |
| 9 | +2.4 |
| 10 | +2.5 |
| 11 | +0.8 |
| 12 | +2.5 |
| 13 | +2.5 |
| 14 | +2.4 |
| 15 | +2.5 |
| 16 | +2.5 |
| 17 | +1.2 |
| 18 | +4.9 |
| 19 | +4.8 |
| 20 | +4.9 |
| 21 | 0 |
| 22 | 0 |
| 23 | +0.1 |
| 24 | +1.3 |
| 25 | +4.9 |
| 26 | +1.4 |
| 27 | +1.5 |
| 28 | +2.3 |
| 29 | +2.0 |
| 30 | +2.4 |
| 31 | +3.1 |
| 32 | +2.5 |
| 33 | +3.0 |
| 34 | 0 |
| 35 | +2.5 |
| 36 | +2.5 |
| 37 | +2.5 |
| 38 | +2.5 |
| 39 | +2.5 |
| 40 | +2.2 |
| 41 | 0 |
| 42 | +2.5 |
| 43 | +2.5 |
| 44 | +2.4 |
| 45 | +2.5 |
| 46 | 0 |
| 47 | +2.4 |
| 48 | +2.5 |

IC102 (LA6520)

| | |
|---|---|
| 1 | +1.9 |
| 2 | +1.9 |
| 3 | 0 |
| 4 | +0.1 |
| 5 | +1.6 |
| 6 | +1.6 |
| 7 | +1.6 |
| 8 | +1.6 |
| 9 | 0 |
| 10 | 0 |
| 11 | 0 |
| 12 | +7.2 |
| 13 | -8.2 |
| 14 | -8.2 |

IC103 (NJM2068M)

| | |
|---|---|
| 1 | +2.5 |
| 2 | +2.5 |
| 3 | +2.5 |
| 4 | 0 |
| 5 | +2.5 |
| 6 | +2.5 |
| 7 | +2.5 |
| 8 | +4.9 |

IC104 (NJM2904M)

| | |
|---|---|
| 1 | +2.5 |
| 2 | +2.5 |
| 3 | +2.5 |
| 4 | 0 |
| 5 | +2.5 |
| 6 | +2.5 |
| 7 | +2.5 |
| 8 | +4.9 |

IC105 (TC4W66F)

| | |
|---|---|
| 1 | +2.6 |
| 2 | +2.5 |
| 3 | 0 |
| 4 | 0 |
| 5 | +2.5 |
| 6 | +2.5 |
| 7 | 0 |
| 8 | +4.9 |

IC106 (NJM2068M)

| | |
|---|---|
| 1 | +2.4 |
| 2 | +2.4 |
| 3 | +2.4 |
| 4 | 0 |
| 5 | +2.5 |
| 6 | +2.5 |
| 7 | +2.5 |
| 8 | +4.9 |

IC107 (TC4W53F)

| | |
|---|---|
| 1 | +2.5 |
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | +4.9 |

IC201 (BA6849FP)

| | |
|---|---|
| 1 | 0 |
| 2 | +5.9 |
| 3 | 0 |
| 4 | +5.9 |
| 5 | 0 |
| 6 | 0 |
| 7 | +5.9 |
| 8 | 0 |
| 9 | +2.5 |
| 10 | +2.5 |
| 11 | +2.4 |
| 12 | +2.5 |
| 13 | +2.5 |
| 14 | +2.5 |
| 15 | +0.5 |
| 16 | 0 |
| 17 | +0.6 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | +2.6 |
| 22 | +2.5 |
| 23 | +4.9 |
| 24 | +2.4 |
| 25 | +4.9 |
| 26 | +7.2 |
| 27 | +7.2 |
| 28 | +7.2 |
| 29 | 0 |
| 30 | 0 |

IC206 (MPC17A85ZVM)

| | |
|---|---|
| 1 | 0 |
| 2 | +4.5 |
| 3 | +4.9 |
| 4 | 0 |
| 5 | +1.5 |
| 6 | +0.5 |
| 7 | +0.5 |
| 8 | +0.1 |
| 9 | +0.4 |
| 10 | +4.9 |
| 11 | 0 |
| 12 | +4.7 |
| 13 | +0.6 |
| 14 | 0 |
| 15 | +1.1 |
| 16 | 0 |
| 17 | +3.1 |
| 18 | +0.1 |
| 19 | +0.5 |
| 20 | +4.7 |
| 21 | +1.4 |
| 22 | +14.1 |
| 23 | +11.9 |
| 24 | +7.2 |
| 25 | +2.4 |
| 26 | +2.4 |
| 27 | +4.9 |
| 28 | 0 |
| 29 | +4.9 |
| 30 | +5.0 |

IC301 (CXD2500BQ)

| | | | |
|---|---|---|---|
| 1 | +4.9 | 41 | +2.3 |
| 2 | +0.1 | 42 | +4.9 |
| 3 | +4.9 | 43 | +2.5 |
| 4 | +2.7 | 44 | 0 |
| 5 | 0 | 45 | +4.9 |
| 6 | +4.9 | 46 | +4.4 |
| 7 | 0 | 47 | 0 |
| 8 | +4.9 | 48 | 0 |
| 9 | 0 | 49 | 0 |
| 10 | 0 | 50 | +1.2 |
| 11 | 0 | 51 | +1.2 |
| 12 | 0 | 52 | 0 |
| 13 | 0 | 53 | +2.5 |
| 14 | 0 | 54 | +2.5 |
| 15 | 0 | 55 | 0 |
| 16 | +2.6 | 56 | +2.8 |
| 17 | +2.5 | 57 | +2.3 |
| 18 | 0 | 58 | +1.4 |
| 19 | +2.6 | 59 | 0 |
| 20 | +2.6 | 60 | 0 |
| 21 | 0 | 61 | 0 |
| 22 | +2.5 | 62 | +2.5 |
| 23 | +4.9 | 63 | 0 |
| 24 | +2.5 | 64 | 0 |
| 25 | +0.9 | 65 | 0 |
| 26 | +2.5 | 66 | +4.1 |
| 27 | +2.5 | 67 | +4.8 |
| 28 | +4.9 | 68 | 0 |
| 29 | 0 | 69 | +0.6 |
| 30 | 0 | 70 | +5.0 |
| 31 | +2.5 | 71 | +0.1 |
| 32 | +2.5 | 72 | +4.9 |
| 33 | 0 | 73 | +4.9 |
| 34 | +2.5 | 74 | +4.8 |
| 35 | +2.4 | 75 | +1.3 |
| 36 | +2.5 | 76 | +0.1 |
| 37 | +2.4 | 77 | +0.1 |
| 38 | +2.5 | 78 | +4.9 |
| 39 | 0 | 79 | +4.8 |
| 40 | +4.9 | 80 | +0.1 |

IC302 (BA7042)

| | |
|---|---|
| 1 | +2.6 |
| 2 | +2.1 |
| 3 | +2.1 |
| 4 | 0 |
| 5 | +3.9 |
| 6 | +5.0 |
| 7 | +2.6 |
| 8 | +2.6 |

IC303 (TC7SU04F)

| | |
|---|---|
| 1 | 0 |
| 2 | +2.6 |
| 3 | 0 |
| 4 | +2.6 |
| 5 | +4.9 |

IC402 (µPD6383GF)

| | | | |
|---|---|---|---|
| 1 | +4.9 | 51 | 0 |
| 2 | +4.9 | 52 | 0 |
| 3 | +4.9 | 53 | 0 |
| 4 | +0.1 | 54 | 0 |
| 5 | +0.8 | 55 | 0 |
| 6 | +0.1 | 56 | 0 |
| 7 | +4.7 | 57 | 0 |
| 8 | +4.9 | 58 | 0 |
| 9 | +5.0 | 59 | 0 |
| 10 | +5.0 | 60 | 0 |
| 11 | +4.7 | 61 | 0 |
| 12 | +4.7 | 62 | +4.7 |
| 13 | +4.7 | 63 | +4.7 |
| 14 | +4.7 | 64 | 0 |
| 15 | +4.7 | 65 | +0.4 |
| 16 | 0 | 66 | +0.4 |
| 17 | +2.4 | 67 | +0.4 |
| 18 | +2.5 | 68 | +0.4 |
| 19 | +2.4 | 69 | +0.4 |
| 20 | +2.5 | 70 | +0.4 |
| 21 | 0 | 71 | +0.4 |
| 22 | 0 | 72 | +0.4 |
| 23 | +2.4 | 73 | 0 |
| 24 | +3.0 | 74 | 0 |
| 25 | +2.9 | 75 | 0 |
| 26 | +2.4 | 76 | 0 |
| 27 | +2.4 | 77 | 0 |
| 28 | 0 | 78 | 0 |
| 29 | 0 | 79 | 0 |
| 30 | 0 | 80 | 0 |
| 31 | +4.72 | 81 | 0 |
| 32 | +4.72 | 82 | +4.7 |
| 33 | +4.72 | 83 | +4.7 |
| 34 | 0 | 84 | 0 |
| 35 | 0 | 85 | +4.7 |
| 36 | 0 | 86 | 0 |
| 37 | 0 | 87 | 0 |
| 38 | +4.72 | 88 | +4.9 |
| 39 | +2.5 | 89 | 0 |
| 40 | +2.5 | 90 | +4.7 |
| 41 | 0 | 91 | +4.7 |
| 42 | +4.7 | 92 | 0 |
| 43 | +4.7 | 93 | +4.7 |
| 44 | +4.7 | 94 | 0 |
| 45 | +4.7 | 95 | +4.7 |
| 46 | +4.7 | 96 | +4.7 |
| 47 | 0 | 97 | +4.7 |
| 48 | 0 | 98 | 0 |
| 49 | 0 | 99 | +4.7 |
| 50 | 0 | 100 | +4.6 |

IC403 (µPD6383GF)

| | | | |
|---|---|---|---|
| 1 | +4.8 | 51 | +4.7 |
| 2 | +4.8 | 52 | +4.7 |
| 3 | +4.8 | 53 | 0 |
| 4 | 0 | 54 | 0 |
| 5 | 0 | 55 | 0 |
| 6 | 0 | 56 | +4.7 |
| 7 | +4.7 | 57 | +4.7 |
| 8 | +4.7 | 58 | 0 |
| 9 | +5.0 | 59 | 0 |
| 10 | +4.9 | 60 | 0 |
| 11 | +4.7 | 61 | 0 |
| 12 | +4.7 | 62 | 0 |
| 13 | +4.7 | 63 | +4.7 |
| 14 | +4.7 | 64 | 0 |
| 15 | +4.7 | 65 | 0 |
| 16 | 0 | 66 | 0 |
| 17 | +2.3 | 67 | 0 |
| 18 | +2.3 | 68 | 0 |
| 19 | +2.3 | 69 | 0 |
| 20 | +2.3 | 70 | +0.3 |
| 21 | 0 | 71 | +0.3 |
| 22 | 0 | 72 | +0.3 |
| 23 | +2.3 | 73 | 0 |
| 24 | +2.9 | 74 | +4.7 |
| 25 | +2.1 | 75 | 0 |
| 26 | +2.3 | 76 | +4.7 |
| 27 | 0 | 77 | +4.7 |
| 28 | 0 | 78 | 0 |
| 29 | 0 | 79 | +4.7 |
| 30 | 0 | 80 | 0 |
| 31 | +4.7 | 81 | 0 |
| 32 | 0 | 82 | +4.7 |
| 33 | 0 | 83 | +4.7 |
| 34 | 0 | 84 | +4.7 |
| 35 | 0 | 85 | 0 |
| 36 | 0 | 86 | 0 |
| 37 | 0 | 87 | 0 |
| 38 | +4.7 | 88 | 0 |
| 39 | +2.5 | 89 | 0 |
| 40 | +2.5 | 90 | +4.7 |
| 41 | 0 | 91 | +4.7 |
| 42 | +4.7 | 92 | 0 |
| 43 | +4.7 | 93 | 0 |
| 44 | +4.7 | 94 | 0 |
| 45 | 0 | 95 | +4.7 |
| 46 | 0 | 96 | +4.7 |
| 47 | 0 | 97 | 0 |
| 48 | +4.7 | 98 | +4.7 |
| 49 | +4.7 | 99 | 0 |
| 50 | +4.7 | 100 | +4.6 |

IC404 (HM514800CJ)

| | |
|---|---|
| 1 | +4.7 |
| 2 | +2.4 |
| 3 | +2.4 |
| 4 | +2.3 |
| 5 | +2.3 |
| 6 | 0 |
| 7 | +4.6 |
| 8 | +2.3 |
| 9 | +4.6 |
| 10 | +2.1 |
| 11 | +2.5 |
| 12 | +2.4 |
| 13 | +2.4 |
| 14 | +4.7 |
| 15 | 0 |
| 16 | +2.4 |
| 17 | +2.4 |
| 18 | +2.4 |
| 19 | +2.2 – +2.4 |
| 20 | +2.2 – +2.4 |
| 21 | 0 |
| 22 | 0 |
| 23 | +4.5 |
| 24 | +2.2 |
| 25 | +2.2 |
| 26 | +2.2 |
| 27 | +2.2 |
| 28 | 0 |

IC409 (LH52256AN-70LL)

| | |
|---|---|
| 1 | +0.2 |
| 2 | +2.4 |
| 3 | +2.4 |
| 4 | +2.4 |
| 5 | +2.4 |
| 6 | +2.4 |
| 7 | +2.4 |
| 8 | +2.4 |
| 9 | +2.4 |
| 10 | +3.8 |
| 11 | +0.3 |
| 12 | +3.4 |
| 13 | +0.3 |
| 14 | 0 |
| 15 | +3.5 |
| 16 | +3.0 |
| 17 | +0.2 |
| 18 | +0.2 |
| 19 | +3.6 |
| 20 | +4.3 |
| 21 | +2.4 |
| 22 | 0 |
| 23 | +2.5 |
| 24 | +2.4 |
| 25 | +2.4 |
| 26 | +2.4 |
| 27 | +4.6 |
| 28 | +4.7 |

IC502 (PCM1700U)

| | |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | +3.1 |
| 4 | -4.5 |
| 5 | -1.7 |
| 6 | -4.2 |
| 7 | +4.9 |
| 8 | 0 |
| 9 | -5.0 |
| 10 | -1.7 |
| 11 | -4.5 |
| 12 | +3.2 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | +4.7 |
| 19 | 0 |
| 20 | +1.7 |
| 21 | +1.7 |
| 22 | -5.0 |
| 23 | +3.5 |
| 24 | +1.7 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |

IC501 (SM5841CP)

| | |
|---|---|
| 1 | +4.6 |
| 2 | +2.4 |
| 3 | +2.0 |
| 4 | +2.4 |
| 5 | 0 |
| 6 | +4.6 |
| 7 | 0 |
| 8 | 0 |
| 9 | +4.9 |
| 10 | +2.9 |
| 11 | +1.7 |
| 12 | +1.7 |
| 13 | +3.5 |
| 14 | +4.7 |
| 15 | +1.5 |
| 16 | +2.3 |
| 17 | +2.3 |
| 18 | +2.3 |

IC505 (NJM4558MD)

| | |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | -8.4 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | +7.4 |

## VOLTAGES (V) OF FUNCTION BOARD ASSY SECTION

Note : Voltages are in the PLAY mode.

IC701 (PD4842A)

| | | | |
|---|---|---|---|
| 1 | -30.1 | 41 | +4.9 |
| 2 | -30.1 | 42 | 0 |
| 3 | -30.1 | 43 | 0 |
| 4 | -30.0 | 44 | 0 |
| 5 | -30.0 | 45 | +0.1 |
| 6 | -30.1 | 46 | +0.1 |
| 7 | -30.1 | 47 | +2.5 |
| 8 | +4.9 | 48 | 0 |
| 9 | 0 | 49 | +4.7 |
| 10 | +4.9 | 50 | 0 |
| 11 | +4.8 | 51 | +4.9 |
| 12 | +4.9 | 52 | +4.9 |
| 13 | +4.8 | 53 | +0.6 |
| 14 | +4.8 | 54 | 0 |
| 15 | +0.1 | 55 | 0 |
| 16 | +4.1 | 56 | +4.9 |
| 17 | +5.0 | 57 | +4.9 |
| 18 | +4.9 | 58 | 0 |
| 19 | +4.9 | 59 | 0 |
| 20 | 0 | 60 | 0 |
| 21 | +4.9 | 61 | 0 |
| 22 | +2.4 | 62 | 0 |
| 23 | +4.9 | 63 | +4.7 |
| 24 | +2.2 | 64 | -10 – 0 |
| 25 | 0 | 65 | -10 – 0 |
| 26 | +2.5 | 66 | -10 – 0 |
| 27 | +2.5 | 67 | -10 – 0 |
| 28 | +2.4 | 68 | -10 – 0 |
| 29 | +4.9 | 69 | -10 – 0 |
| 30 | +4.9 | 70 | -25 – -20 |
| 31 | +4.9 | 71 | -33.1 |
| 32 | 0 | 72 | -26.1 |
| 33 | 0 | 73 | 0 |
| 34 | +2.3 | 74 | -26.1 |
| 35 | +2.4 | 75 | -22.7 |
| 36 | +4.9 | 76 | -23.4 |
| 37 | +4.9 | 77 | -30.1 |
| 38 | 0 | 78 | -30.1 |
| 39 | +4.9 | 79 | -30.1 |
| 40 | +4.8 | 80 | -30.0 |

IC801 (NJM4556AM)

| | |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | -8.4 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | +7.4 |

IC901 (NJM2904M)

| | |
|---|---|
| 1 | +2.5 |
| 2 | +2.5 |
| 3 | +2.5 |
| 4 | 0 |
| 5 | +2.4 |
| 6 | +2.5 |
| 7 | +2.2 |
| 8 | +4.9 |

IC902 (NJM2904M)

| | |
|---|---|
| 1 | +2.2 |
| 2 | +2.5 |
| 3 | +2.4 |
| 4 | 0 |
| 5 | +2.5 |
| 6 | +2.5 |
| 7 | +2.6 |
| 8 | +7.4 |

IC602 (TC74HC175AF)

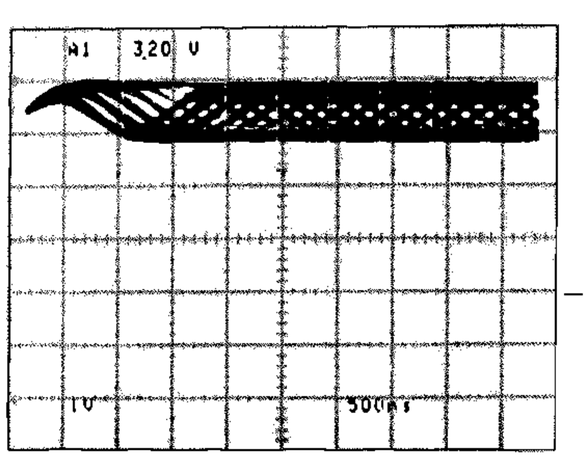
| | |
|---|---|
| 1 | +4.9 |
| 2 | 0 – +5.0 |
| 3 | 0 – +5.0 |
| 4 | +1.8 |
| 5 | +1.3 |
| 6 | +4.9 |
| 7 | +4.9 |
| 8 | 0 |
| 9 | +0.3 |
| 10 | 0 |
| 11 | 0 |
| 12 | +0.7 – +1.1 |
| 13 | +1.4 |
| 14 | 0 |
| 15 | +4.9 |
| 16 | +4.9 |

## Waveforms

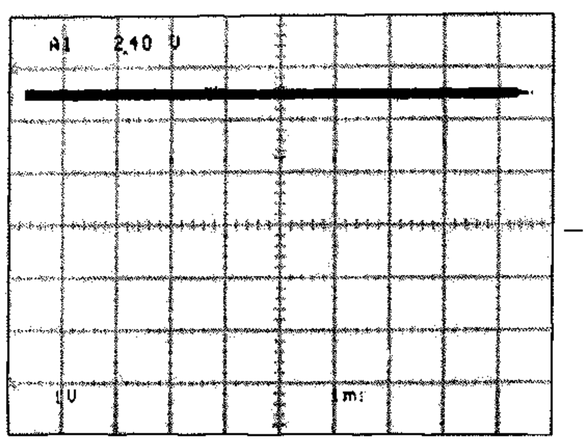
*Note : The encircled numbers denote measuring points in the schematic diagram.*

∗1 14T-JUMP : After switching to the pause mode, Press the manual search key.

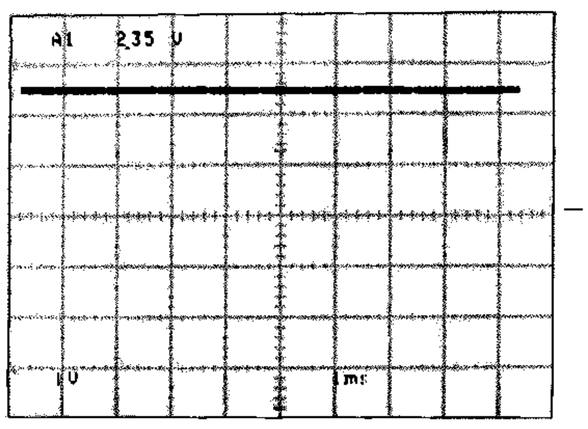
① TP1-Pin 1 : PLAY MODE (RF)
1V/div, 500ns/div



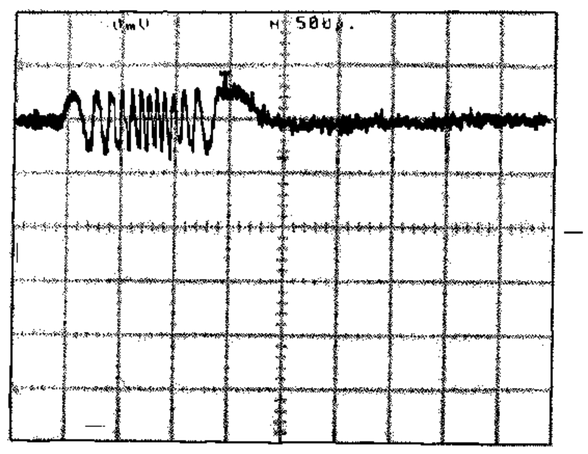

② TP1-Pin 6 : PLAY MODE (FOER)
1V/div, 1ms/div



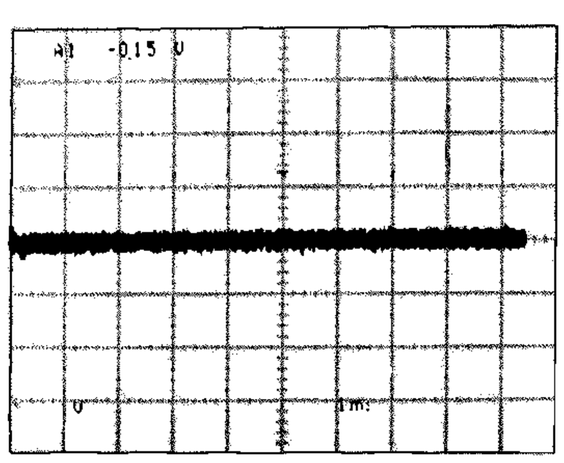

③ TP1-Pin 2 : PLAY MODE (TRER)
1V/div, 1ms/div



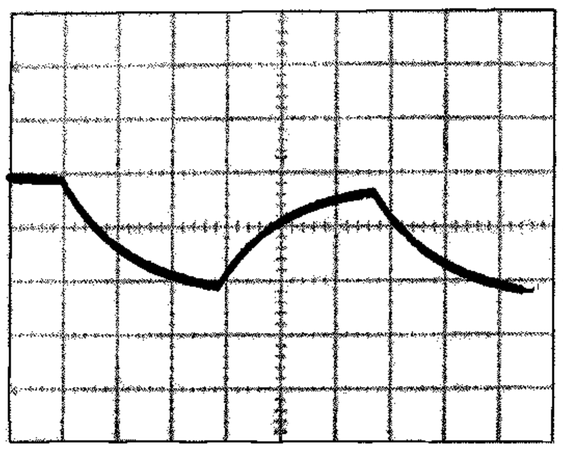

③ TP1-Pin 2 : 14T-JUMP (∗1) MODE (TRER)
1V/div, 2ms/div



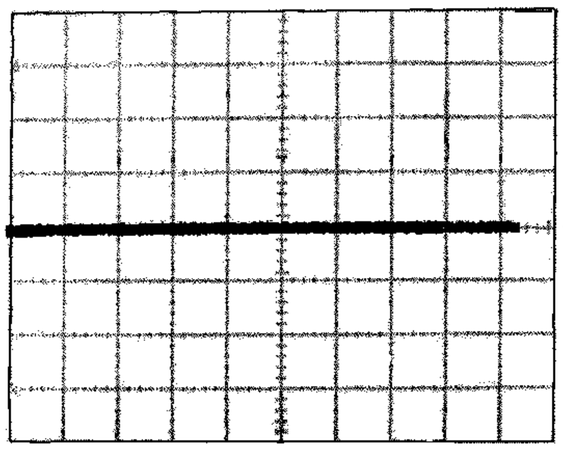

④ TP-FODR : PLAY MODE
1V/div, 1ms/div



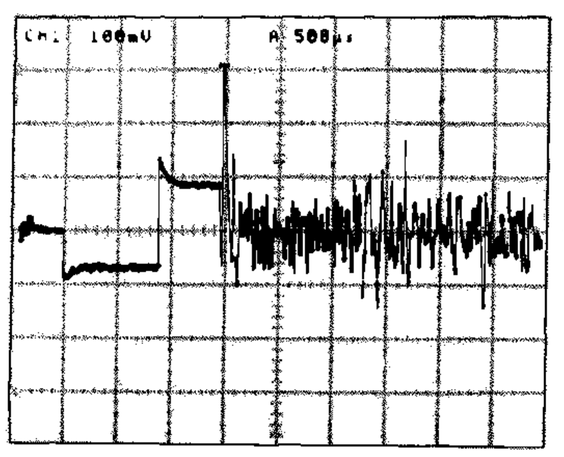

④ TP-FODR : TEST MODE (FOCUS IN)
5V/div, 200ms/div



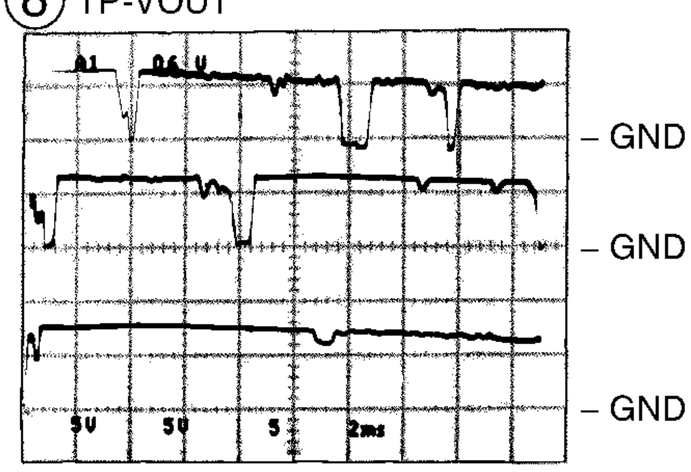

⑤ TP-TRDR : PLAY MODE
1V/div, 1ms/div



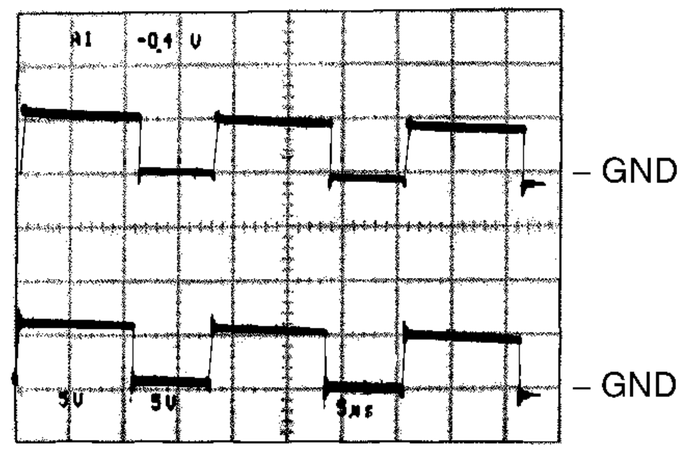

⑤ TP-TRDR : 14T-JUMP (∗1) MODE
1V/div, 200µs/div



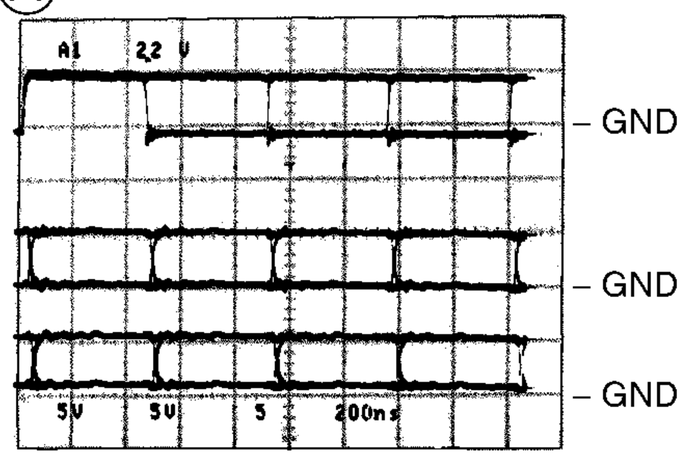

⑥ TP-WOUT
⑦ TP-UOUT
⑧ TP-VOUT
PLAY MODE
5V/div, 2ms/div



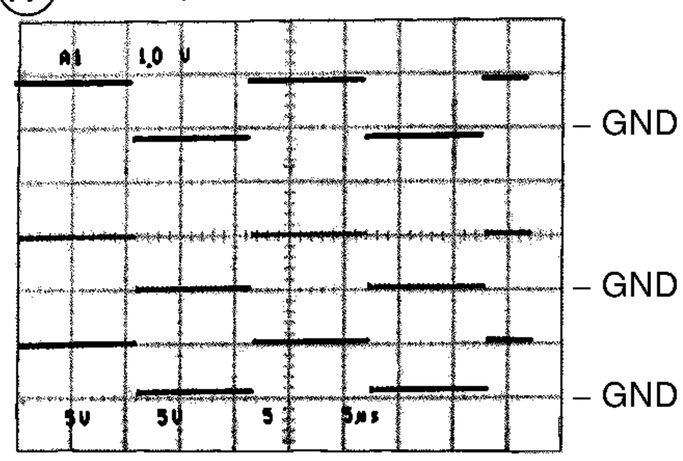

⑨ TP-STA+
⑩ TP-STA-
PLAY MODE
5V/div, 5µs/div



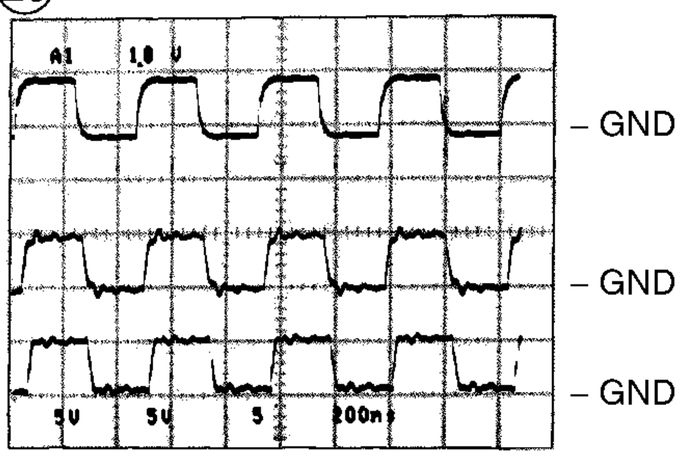

⑫ TP-DATA3
⑬ TP-DATA2
⑭ TP-DATA1
PLAY MODE
5V/div, 200ns/div




⑮ TP-LRCK3
⑯ TP-LRCK2
⑰ TP-LRCK1
PLAY MODE
5V/div, 5µs/div

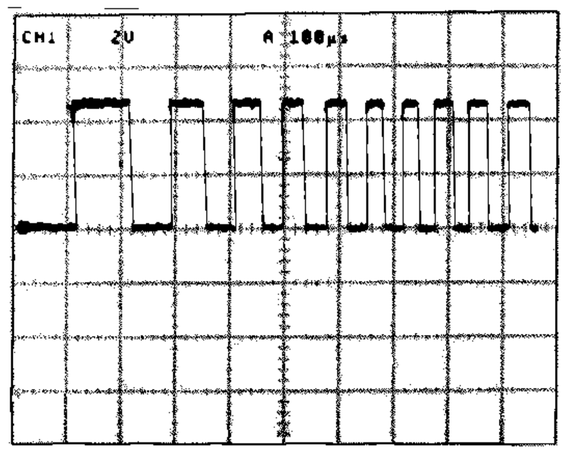


⑱ TP-BCLK3
⑲ TP-BCLK2
⑳ TP-BCLK1
PLAY MODE
5V/div, 200ns/div



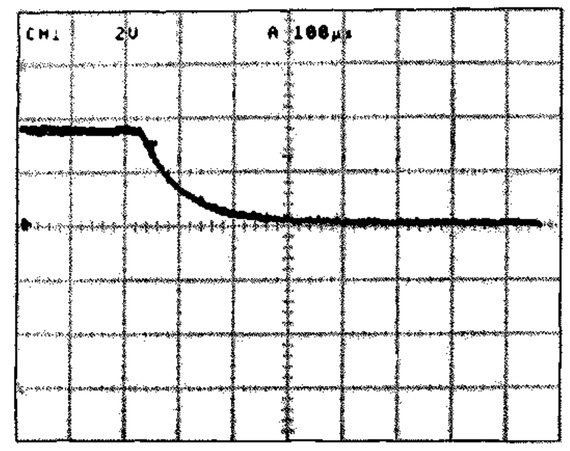

– GND
– GND
– GND

㉔ IC301-Pin80(MIRR) : 14T-JUMP (∗1) MODE
2V/div, 100µs/div



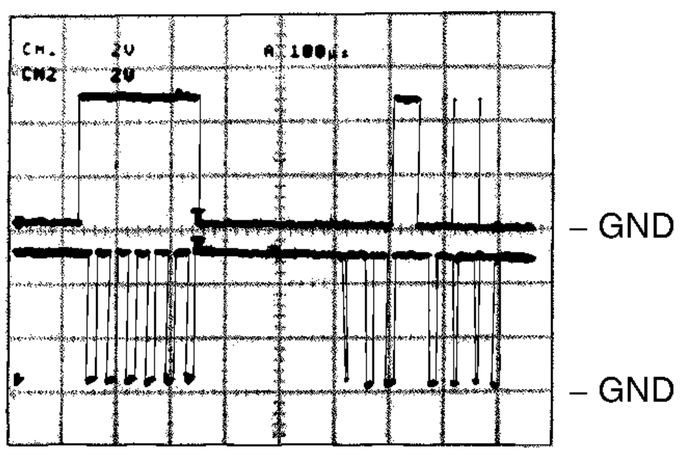

– GND

㉖ IC701-Pin36(/RST3) : POWER OFF MODE
2V/div, 100µs/div



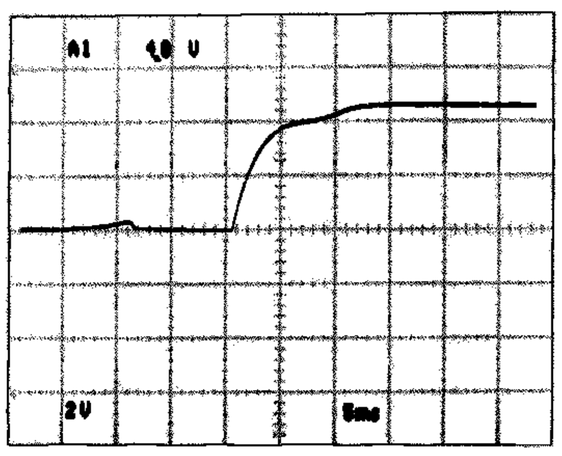

– GND

㉑ IC402-Pin4(DATA)
㉒ IC402-Pin3(CLOK)
PLAY MODE
2V/div, 100µs/div



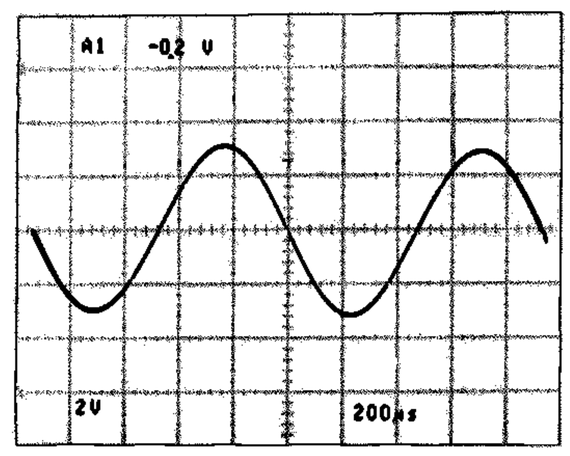

– GND
– GND

㉕ IC701-Pin17(RST) : POWER ON MODE
2V/div, 5ms/div



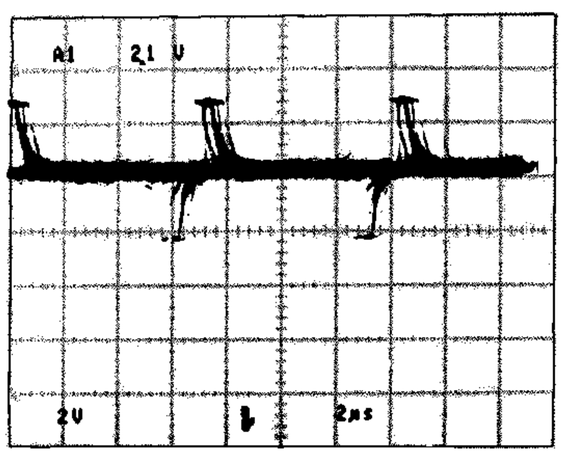

– GND

㉗ TP-AL1 : PLAY MODE (1kHz)
2V/div, 200µs/div



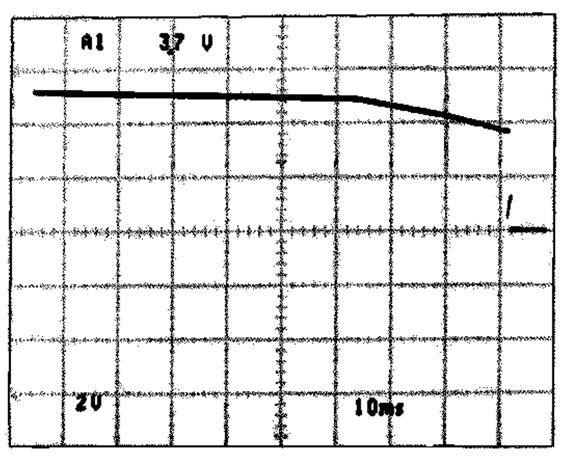

– GND

㉓ TP-MDP : PLAY MODE
2V/div, 2µs/div



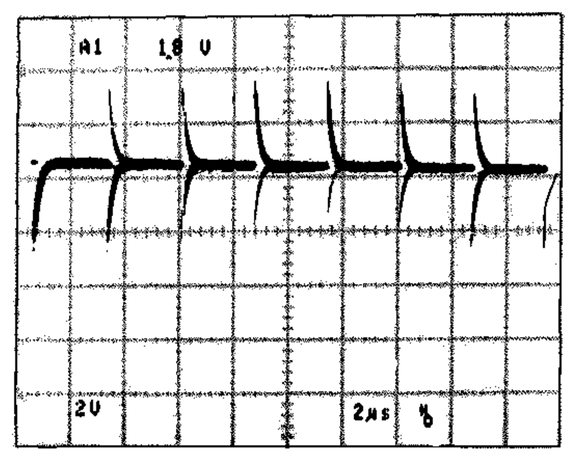

– GND

㉕ IC701-Pin17(RST) : POWER OFF MODE
2V/div, 10ms/div



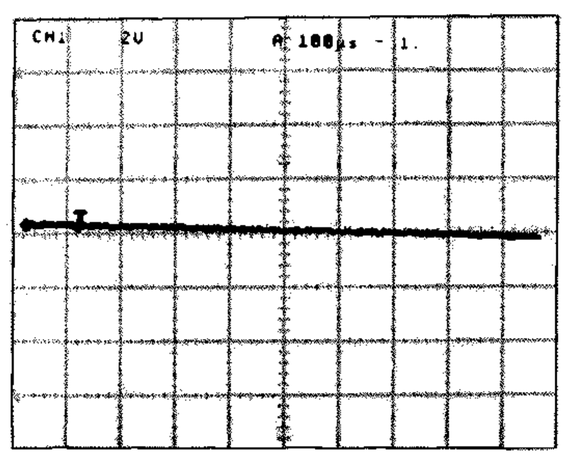

– GND

㉘ IC301-Pin20(PCO) : PLAY MODE
2V/div, 2µs/div



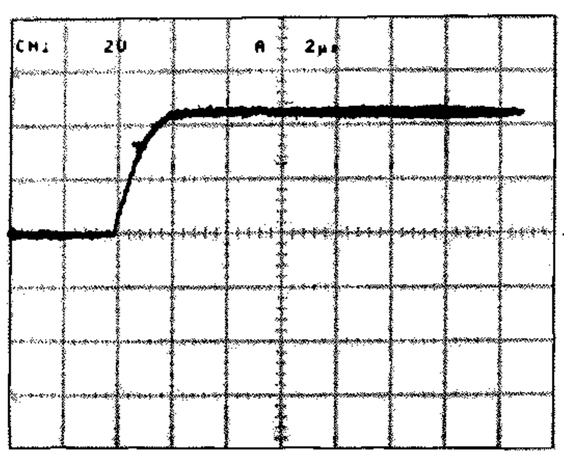

– GND

㉔ IC301-Pin80(MIRR) : PLAY MODE
2V/div, 100µs/div




– GND

㉖ IC701-Pin36(RST3) : POWER ON MODE
2V/div, 2µs/div



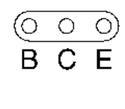
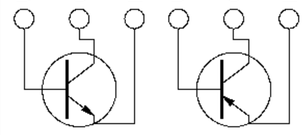
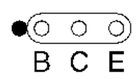
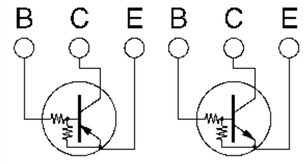
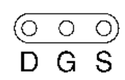
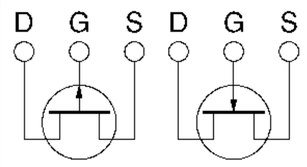
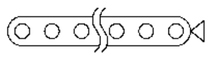
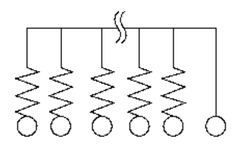
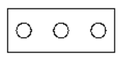
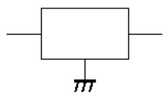

– GND

# 4. PCB CONNECTION DIAGRAM

## 4.1 MAIN BOARD ASSY

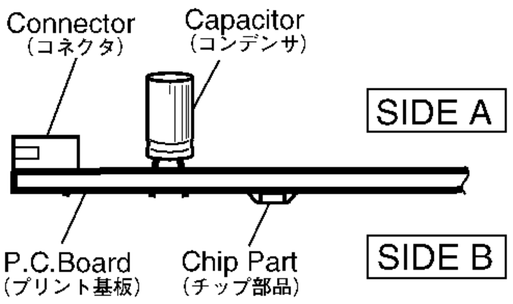
### NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

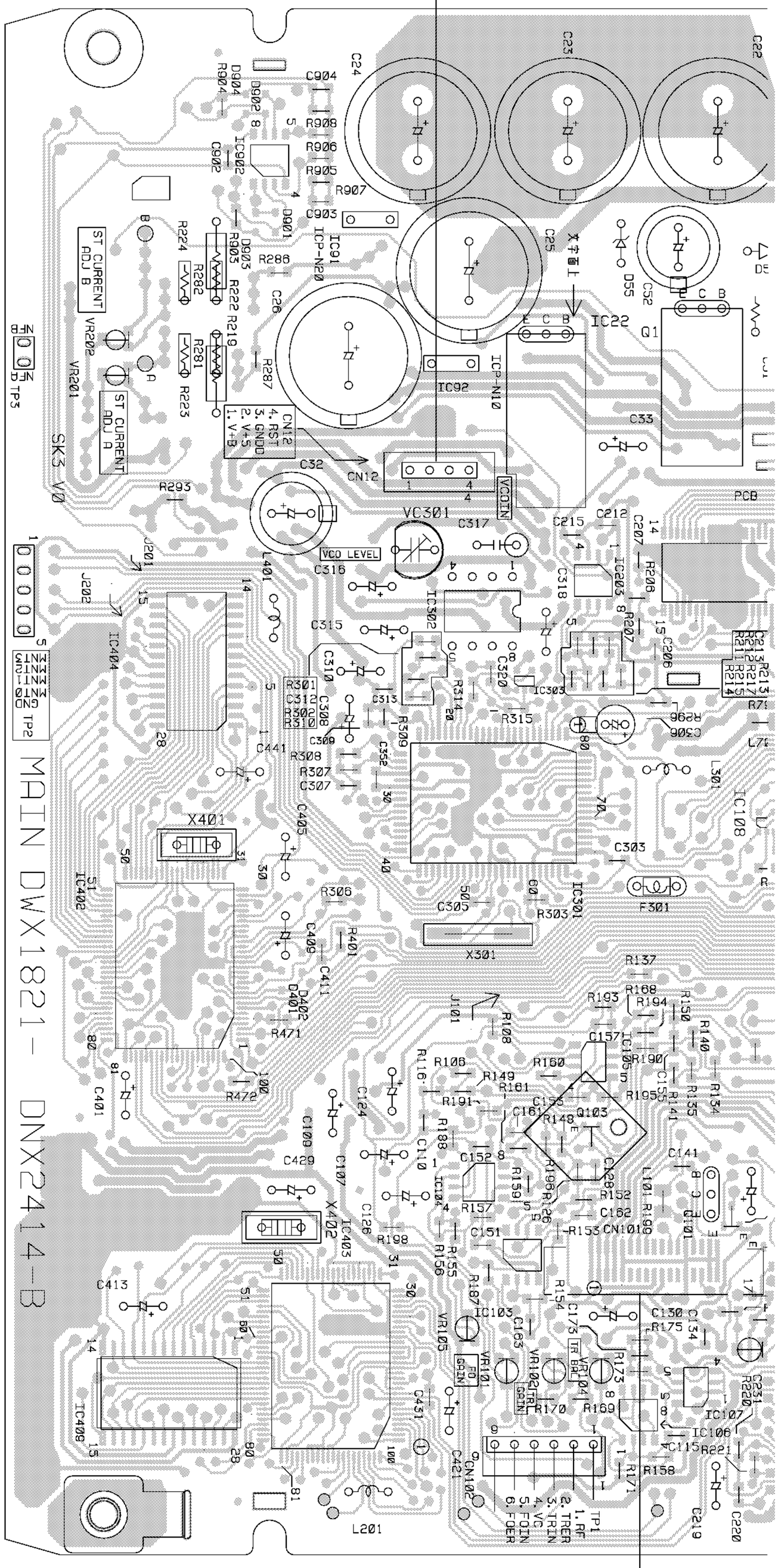
| Symbol in PCB Diagrams | Symbol in Schematic Diagrams | Part Name |
|---|---|---|
|   |   | Transistor |
|   |   | Transistor with resistor |
|   |   | Field effect transistor |
|  |  | Resistor array |
|  |  | 3-terminal regulator |

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respecitve destinations, be sure to check with the schematic diagram.

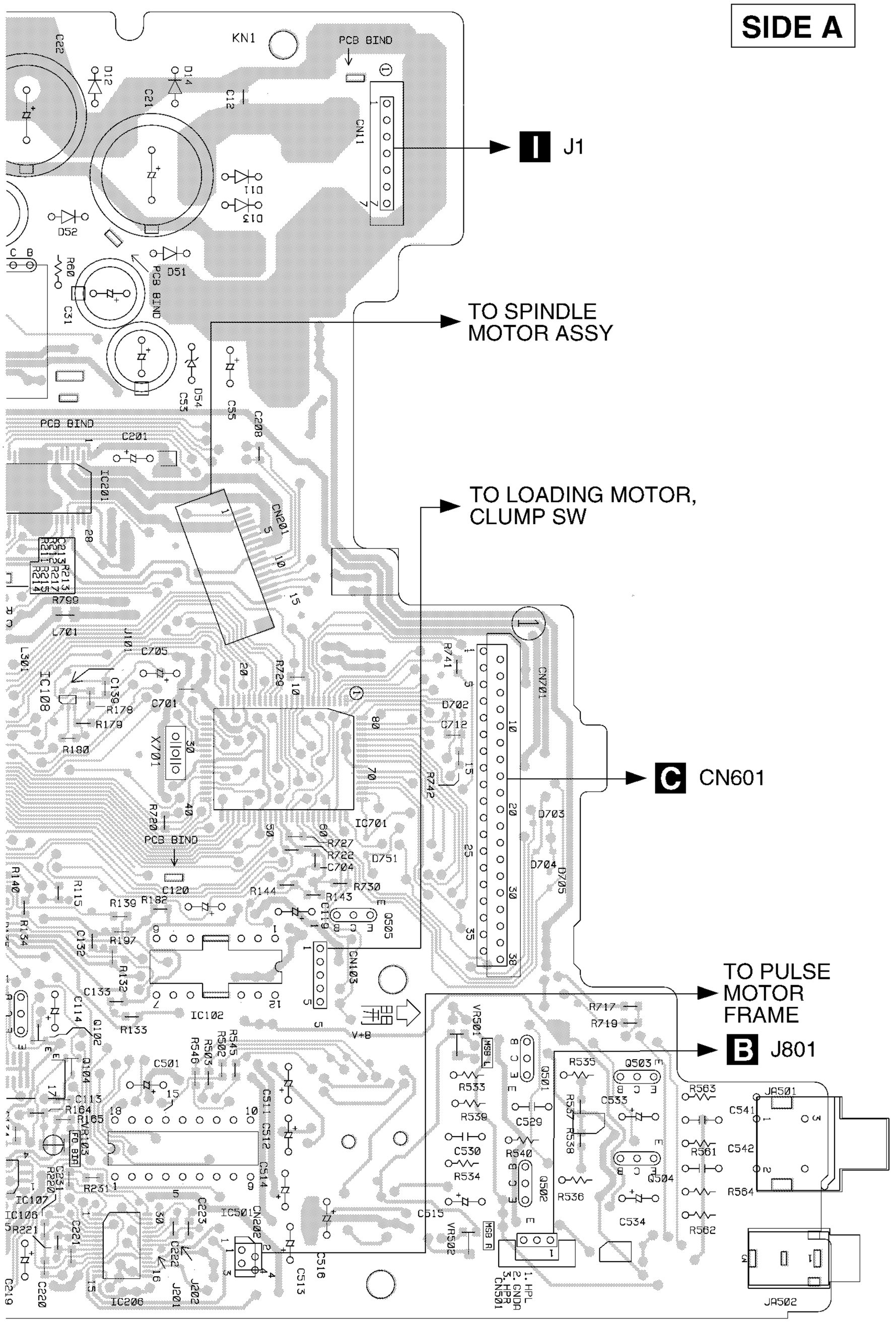
4. Viewpoint of PCB diagrams




A MAIN BOARD ASSY

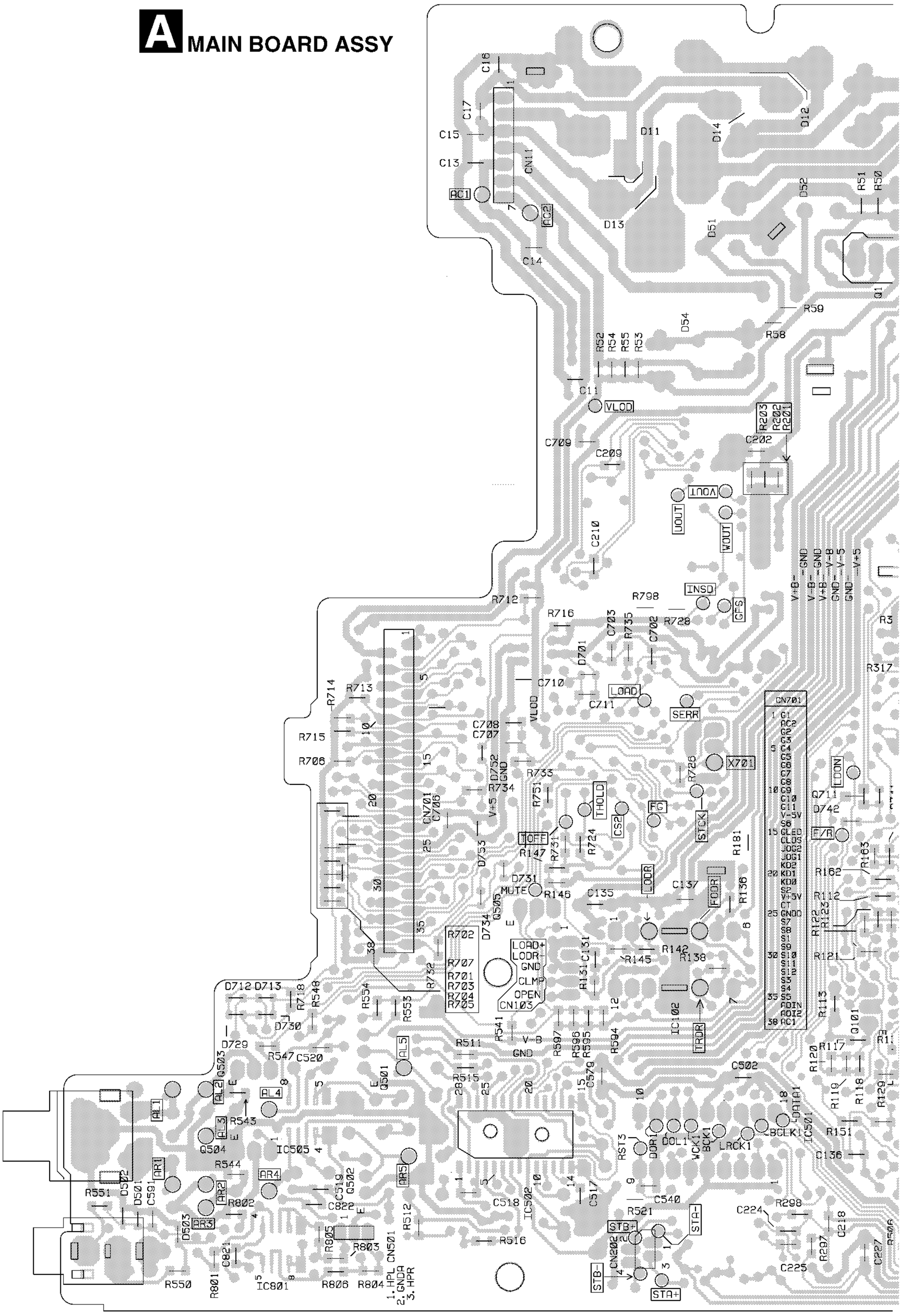


SIDE A

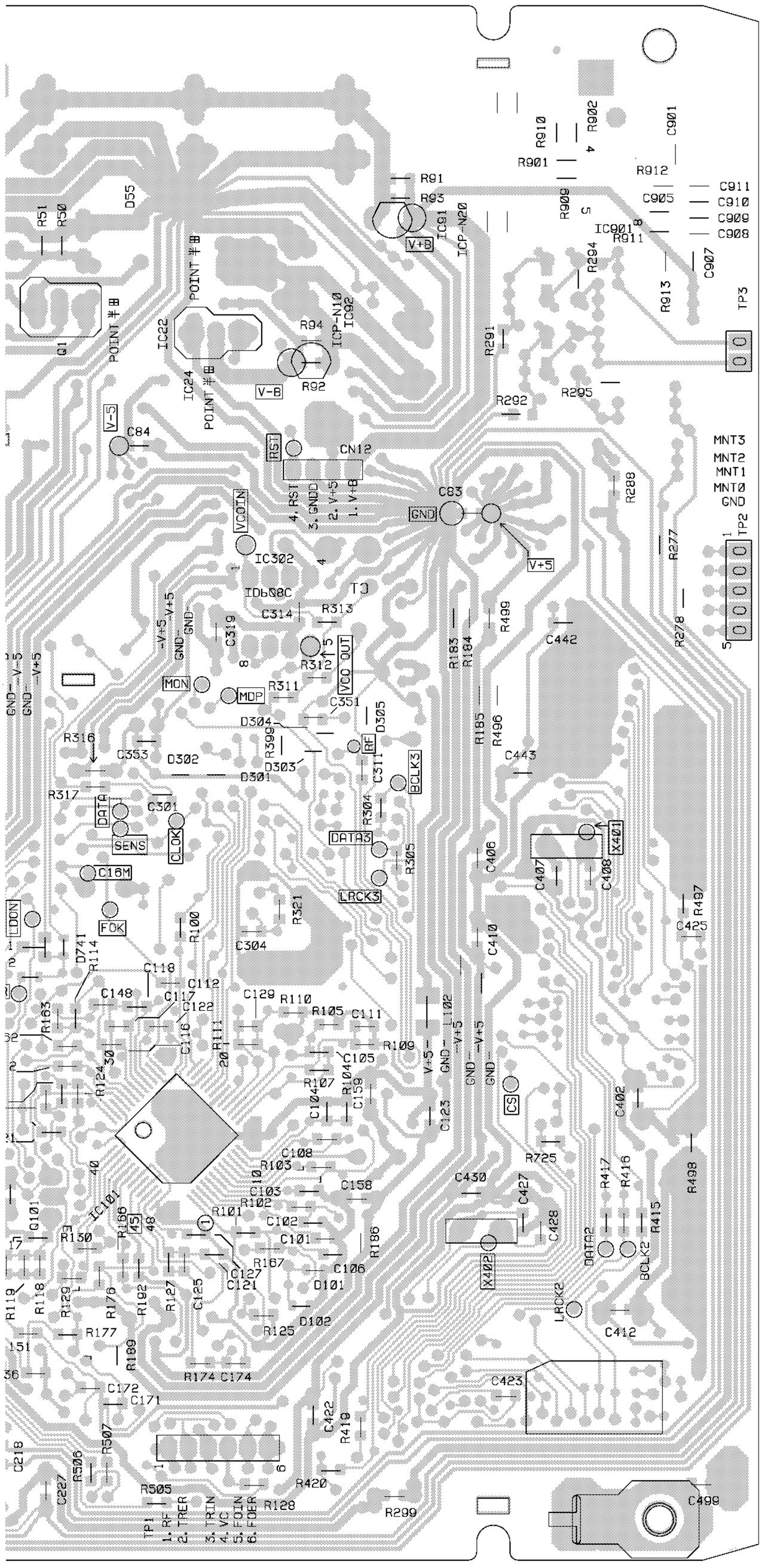



DNP1834-B

## A MAIN BOARD ASSY



**SIDE B**


R51
R50
D55
Q1
POINT #
IC22
IC24
R94
ICP-N10
IC92
R92
V-B
V-5
C84
RST
CN12
4. RSI
3. GNDD
2. V+5
1. V+B
VCOIN
IC302
IDL08C
C314
R313
C319
R312
VCO OUT
MON
MDP
R311
C351
D304
D305
R316
C353
D302
D303
D301
R317
DATA
C301
SENS
CLOK
C16M
FOK
LDON
R304
DATA3
R305
LRCK3
BCLK3
RF
C311
R91
R93
V+B
IC91
ICP-N20
R909
IC901
R911
R912
C905
C911
C910
C909
C908
C907
R913
R294
R291
R292
R295
TP3
C83
GND
V+5
R288
MNT3
MNT2
MNT1
MNT0
GND
TP2
R277
R278
R183
R184
R499
C442
R185
R496
C443
C406
X401
C407
C408
R497
C425
C410
C402
R725
C430
C427
C428
X402
R417
R416
R415
DATA2
BCLK2
LRCK2
C412
C423
C422
R419
R420
R299
C499
R505
R506
R507
C218
C227
TP1
1. RF
2. TRER
3. TRIN
4. VC
5. FOIN
6. FOER
R128
R174
C174
C172
C171
R189
R176
R177
R192
R127
C125
R129
R130
R118
R119
C121
C127
R167
C106
D101
D102
R125
R186
C158
C108
R103
C103
R102
R101
C102
C101
C104
R107
R104
C105
C159
R109
C111
R105
R110
C129
C148
C118
C112
C117
C122
C116
R111
R124
R163
R114
D741
R100
C304
R321
C123
C102
C410
C411
C412
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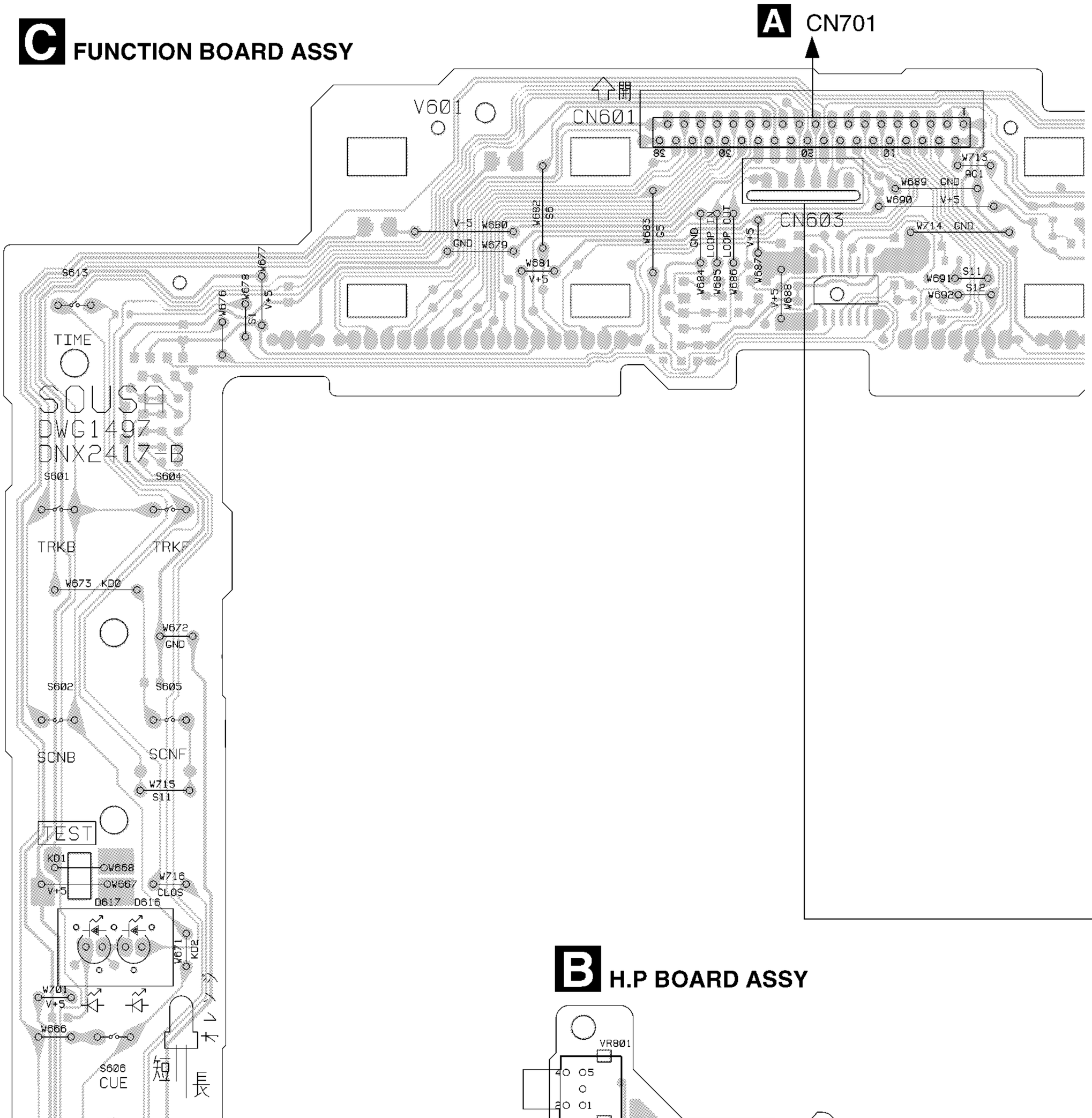
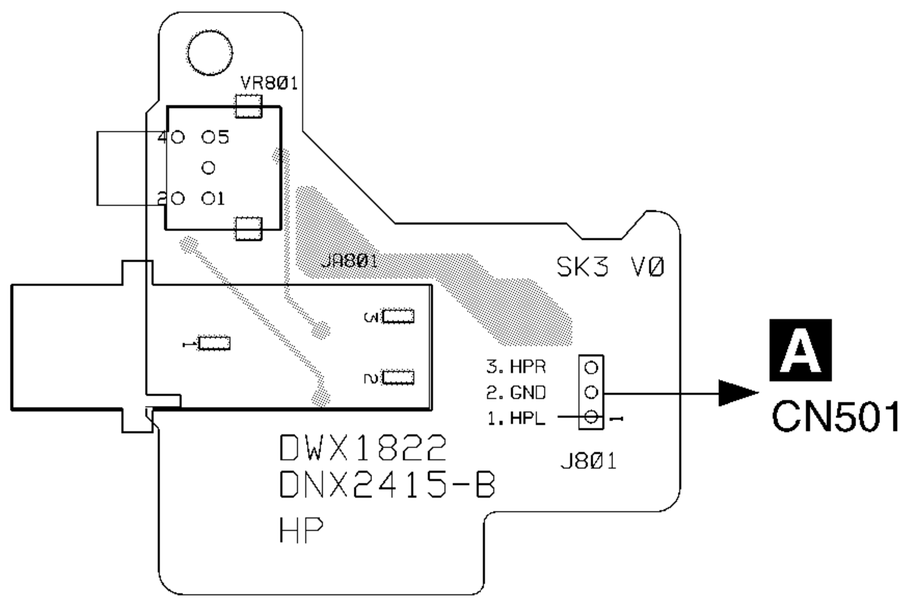
C446
C447
C448
C449

## 4.2 H.P BOARD ASSY, FUNCTION BOARD ASSY, DOOR BOARD ASSY, LED A BOARD ASSY, LED B BOARD ASSY AND SLIDER BOARD ASSY

**C** FUNCTION BOARD ASSY



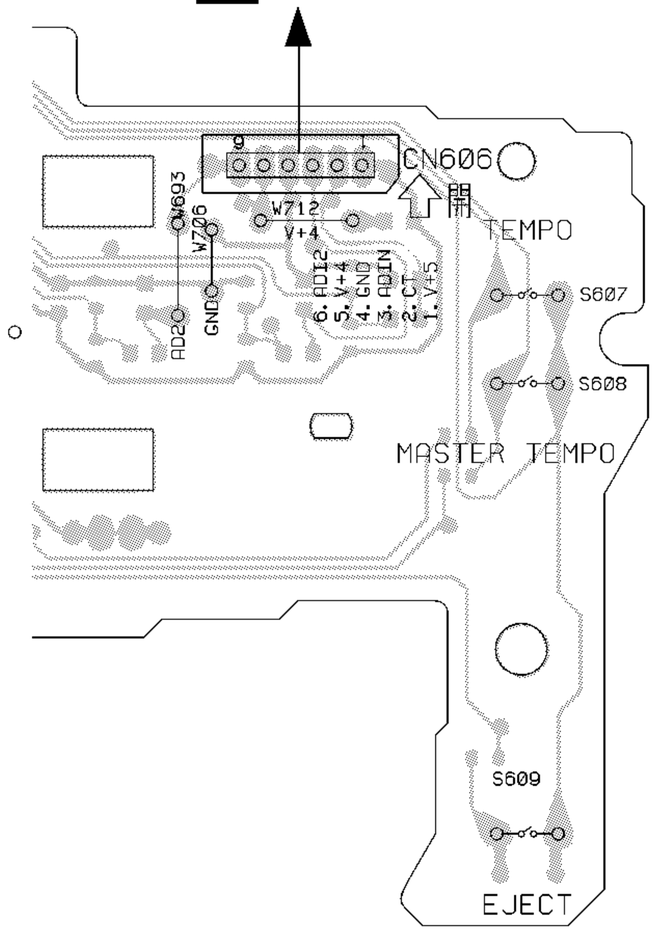

**B** H.P BOARD ASSY




DNP1834-B

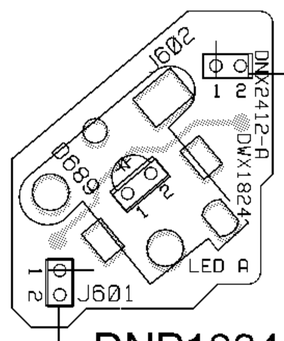
SIDE A

G J606



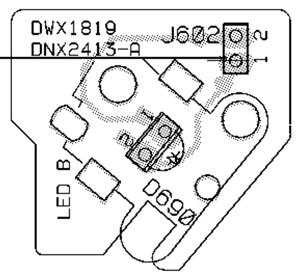

DNP1835-B

E LED A BOARD ASSY



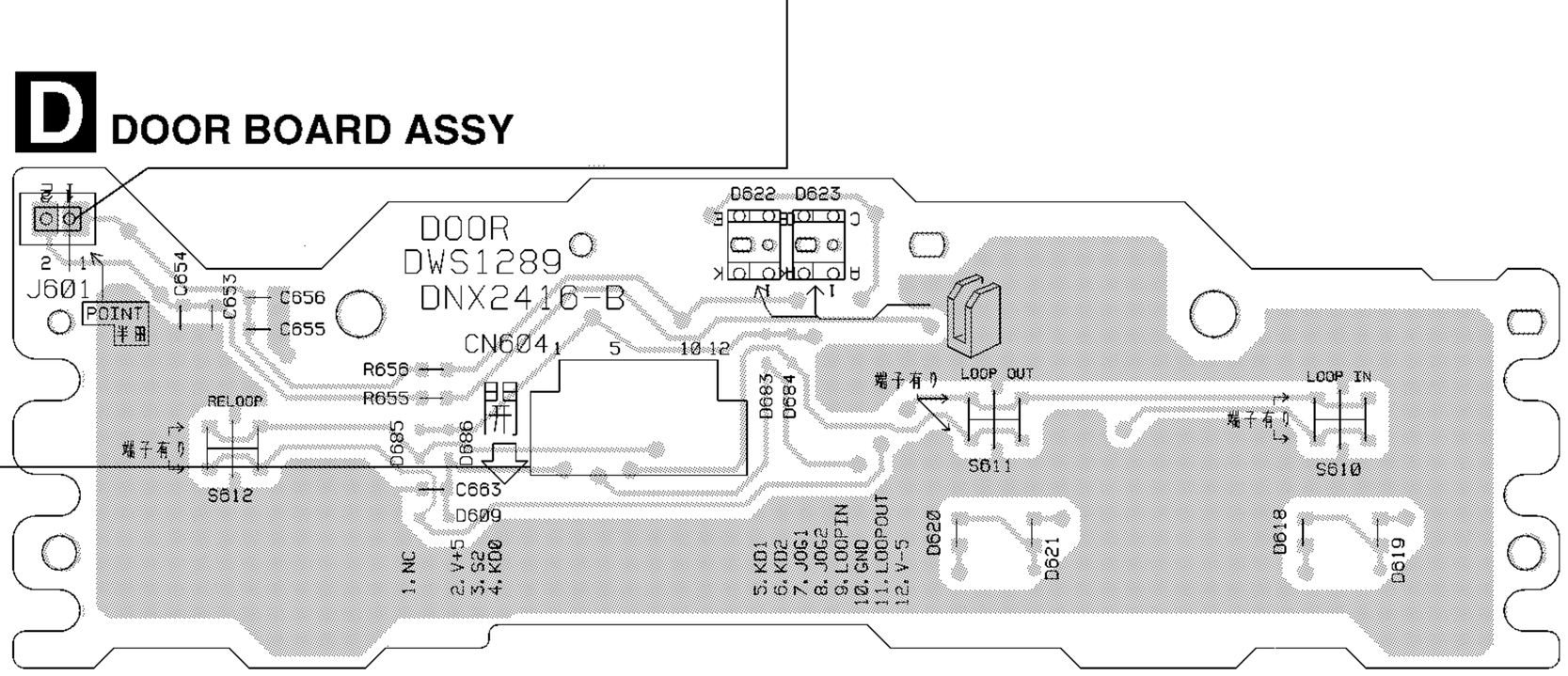

DNP1834-B

F LED B BOARD ASSY




DNP1834-B

D DOOR BOARD ASSY




DNP1834-B

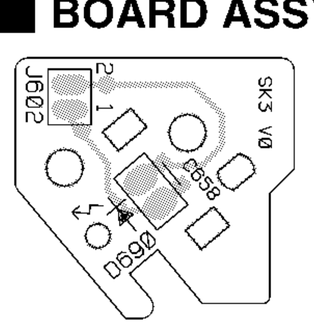
G SLIDER BOARD ASSY




C CN606

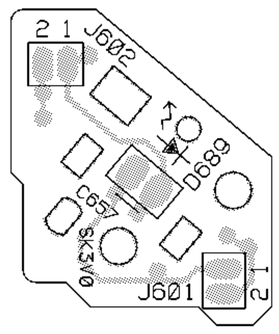
DNP1835-B

## F LED B BOARD ASSY



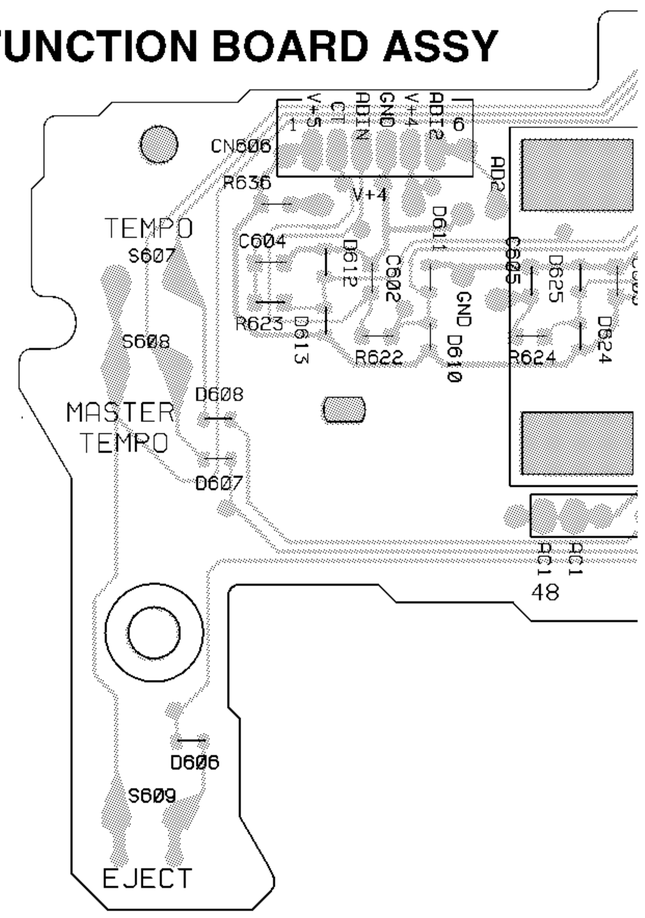

DNP1834-B

## E LED A BOARD ASSY

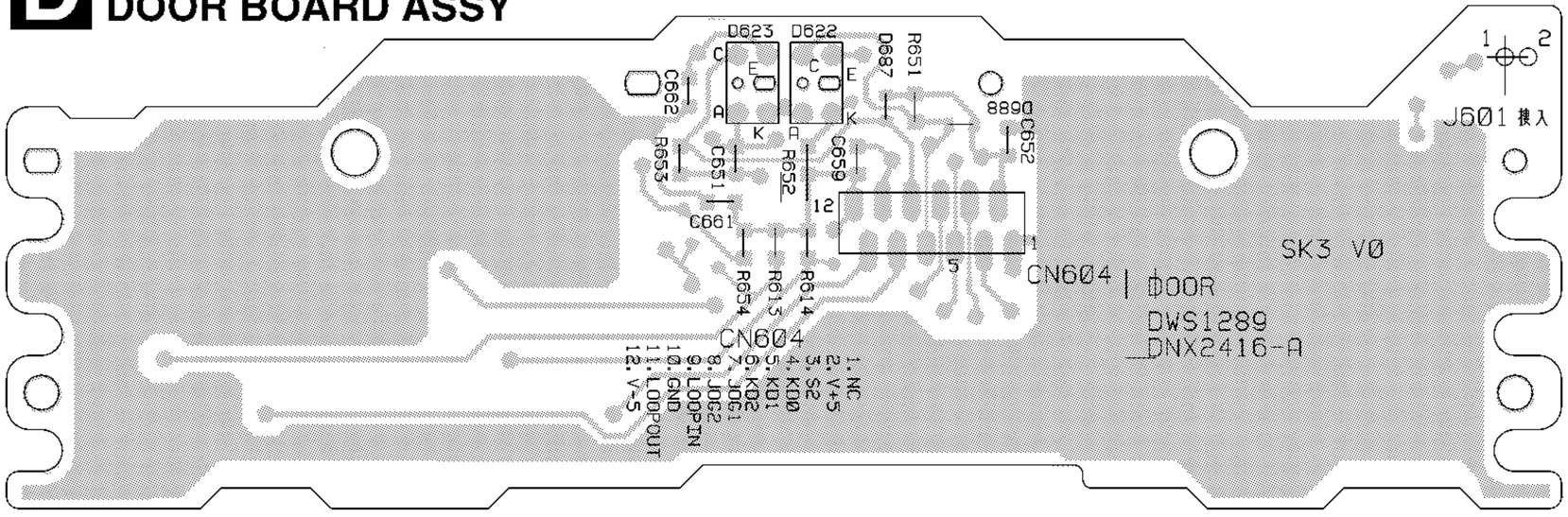



DNP1834-B

## C FUNCTION BOARD ASSY

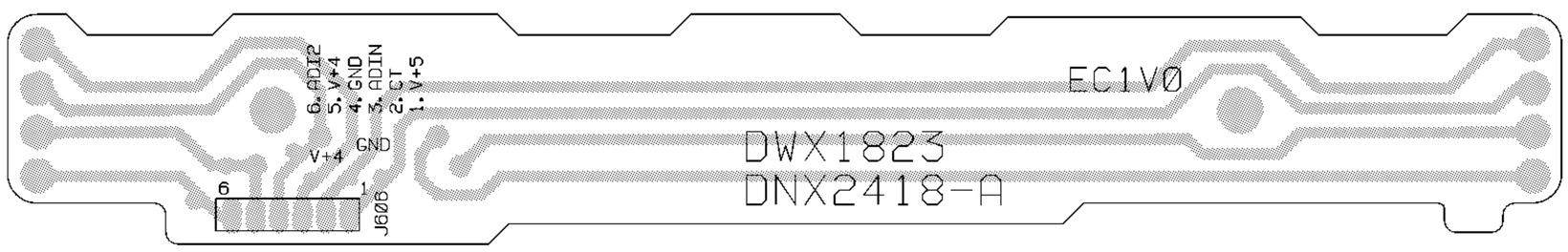



## D DOOR BOARD ASSY



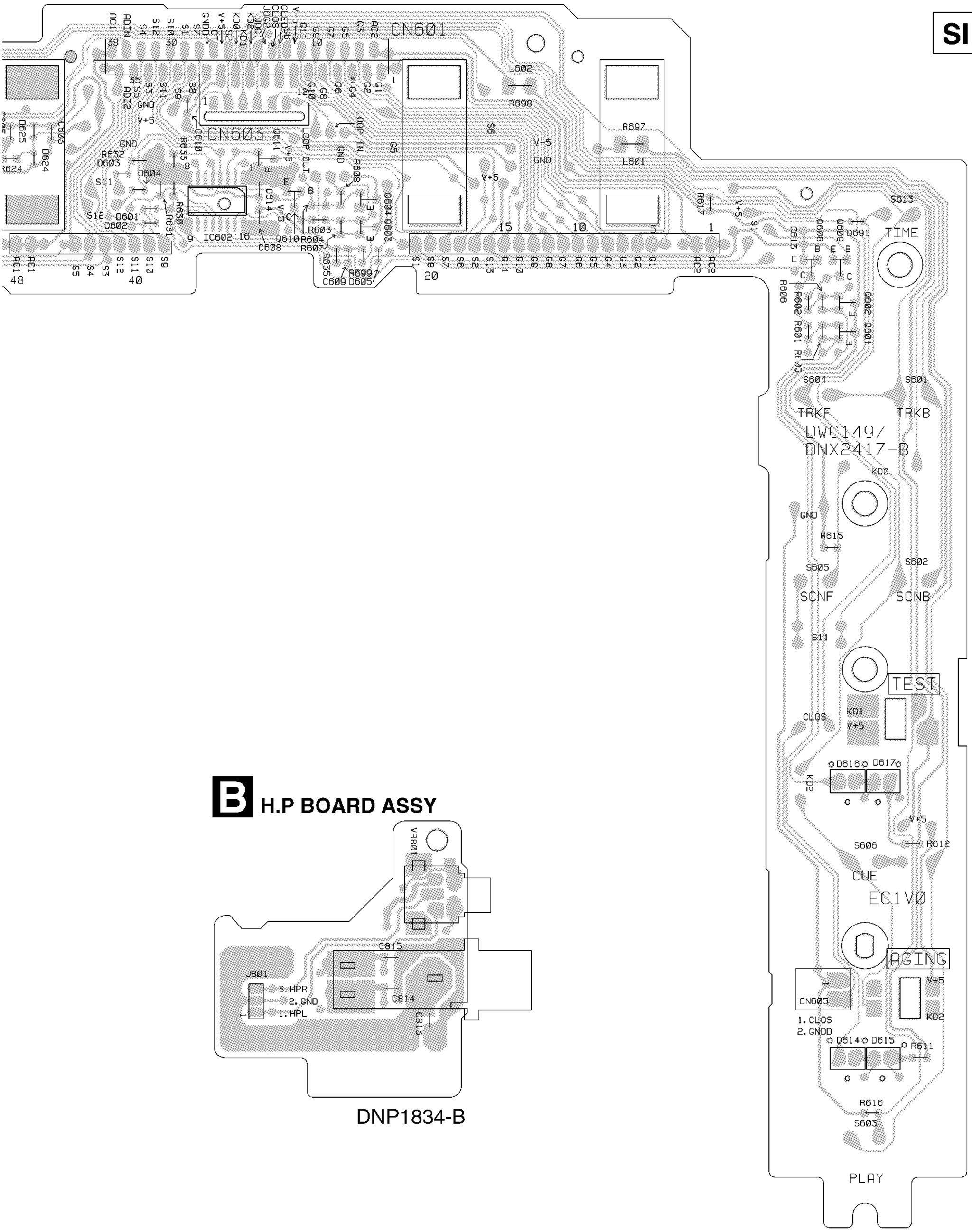

DNP1834-B

## G SLIDER BOARD ASSY




DNP1835-B

SIDE B




Q611
IC602
Q610
Q604
Q603
Q608
Q609
Q602
Q601

## B H.P BOARD ASSY



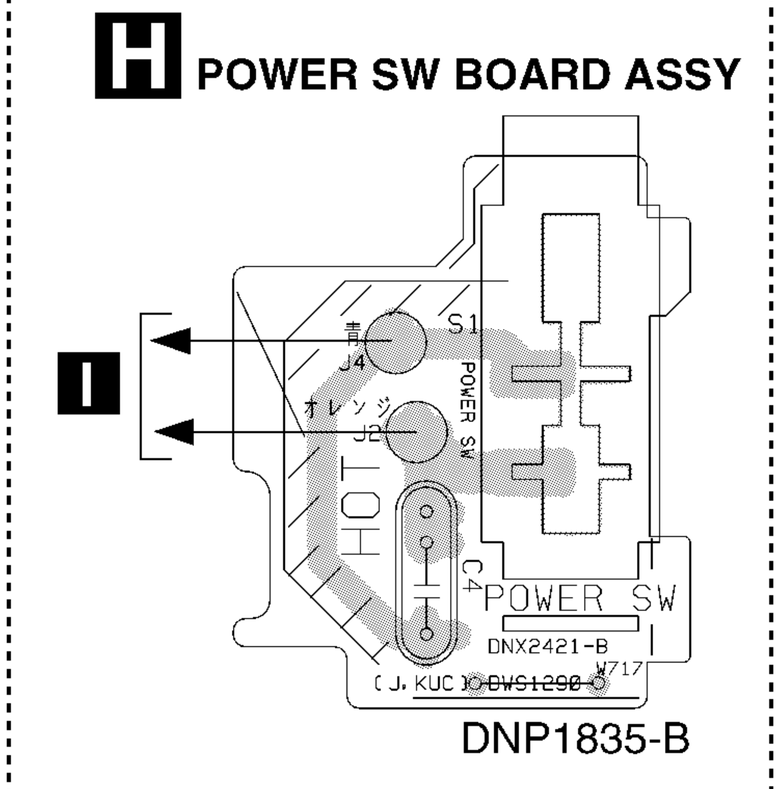

DNP1834-B



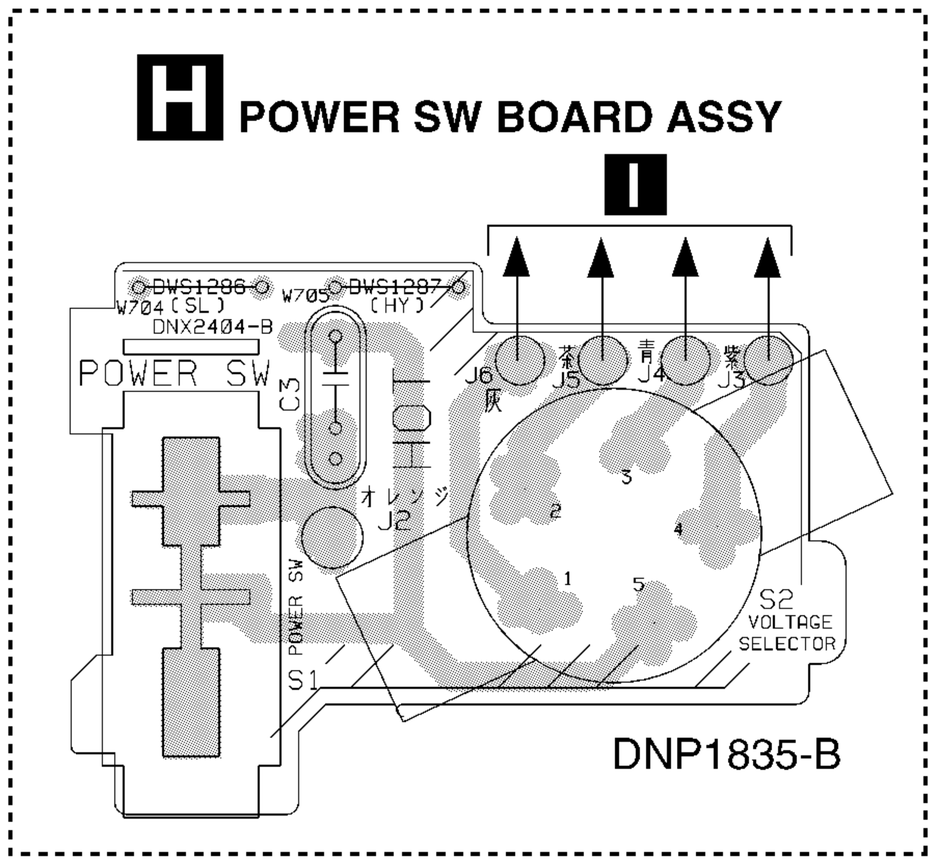

DNP1835-B

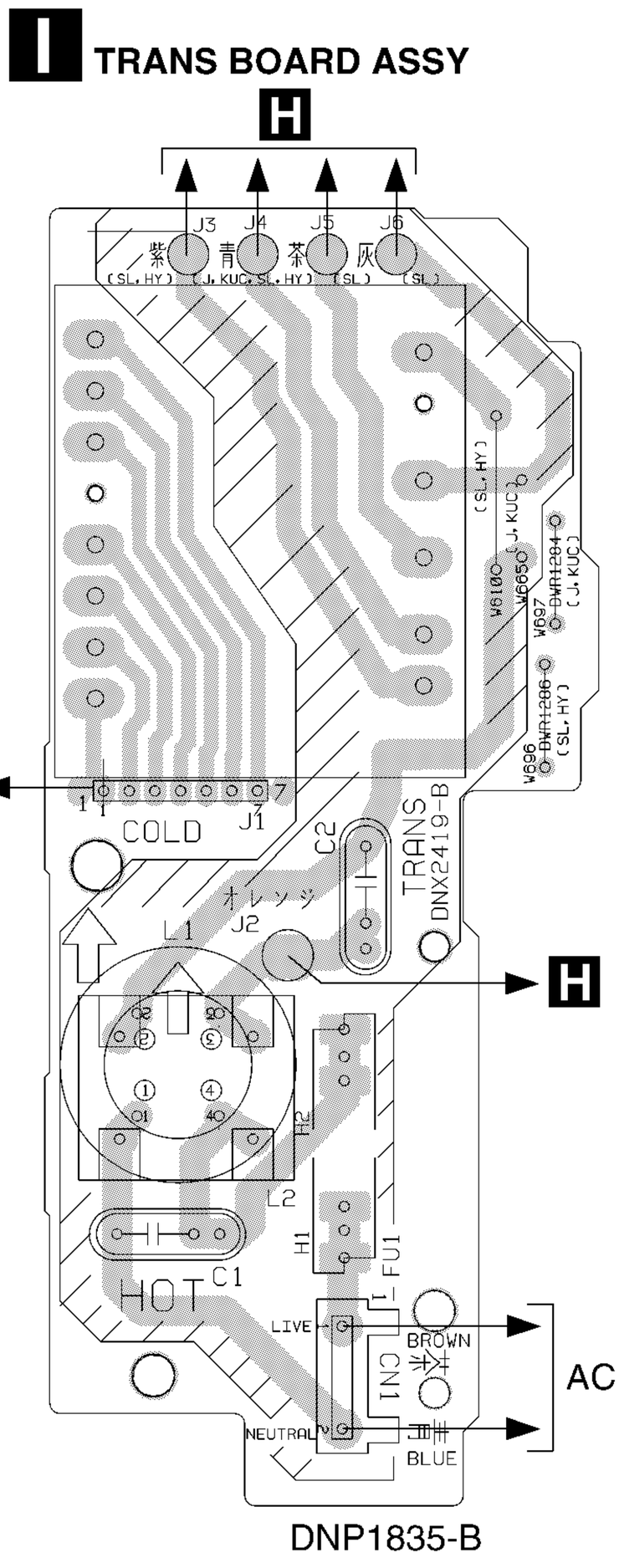
## 4.3 POWER SW BOARD ASSY, TRANS BOARD ASSY AND REGULATOR BORD ASSY

CDJ-700S/KUC

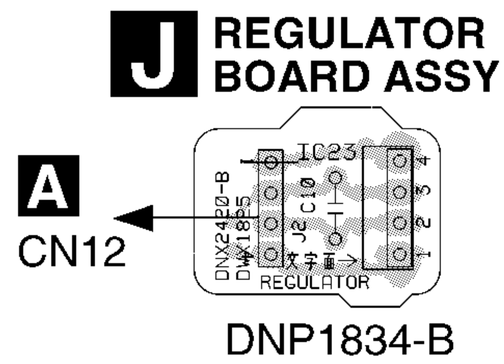



CDJ-500S/HY,SL



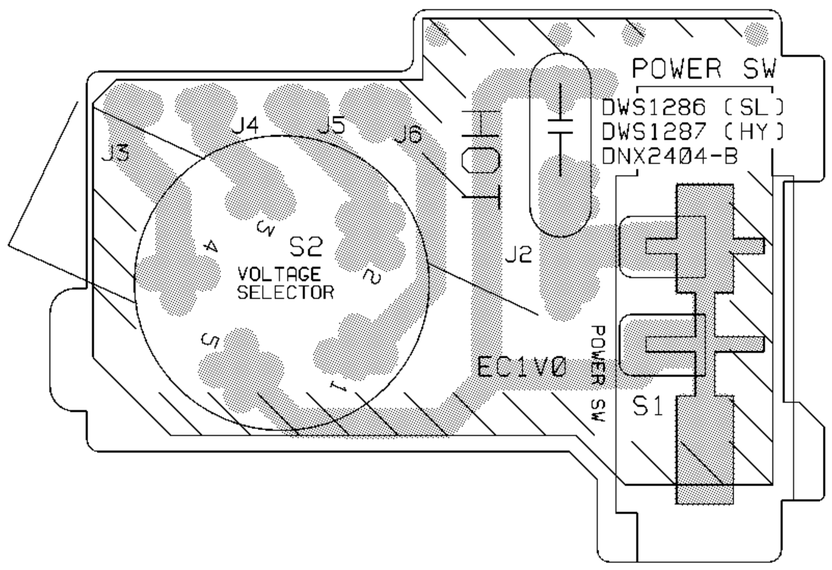




**SIDE A**



CDJ-500S/HY,SL

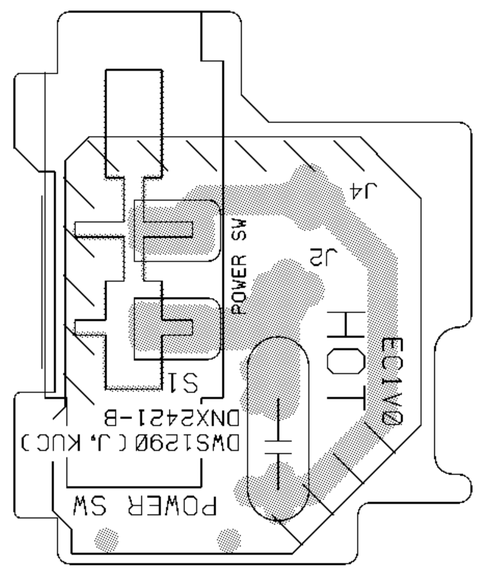
**H** POWER SW BOARD ASSY




DNP1835-B

CDJ-700S/KUC

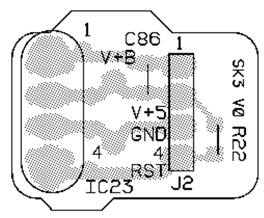
**H** POWER SW BOARD ASSY




DNP1835-B

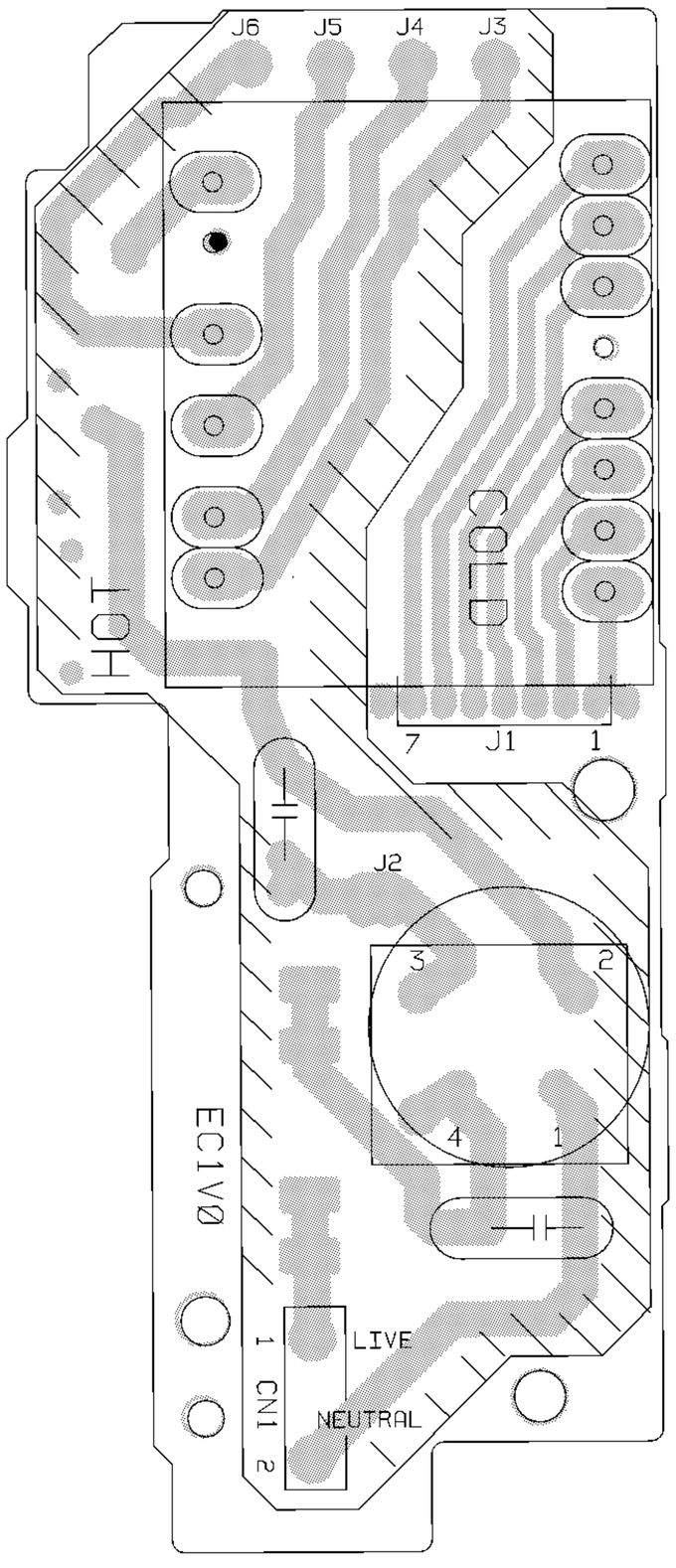
**SIDE B**

**J** REGULATOR BOARD ASSY




DNP1834-B

**I** TRANS BOARD ASSY




DNP1835-B

# 5. PCB PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

| | | | | | |
|---|---|---|---|---|---|
| *560Ω* | → | *56 × 10¹* | → | *561* ..... | *RD1/4PU 5 6 1 J* |
| *47kΩ* | → | *47 × 10³* | → | *473* ..... | *RD1/4PU 4 7 3 J* |
| *0.5Ω* | → | *R50* ..... | | | *RN2H R 5 0 K* |
| *1Ω* | → | *1R0* ..... | | | *RS1P 1 R 0 K* |

*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*

| | | | | | |
|---|---|---|---|---|---|
| *5.62kΩ* | → | *562 × 10¹* | → | *5621* ..... | *RN1/4PC 5 6 2 1 F* |

## ■ LIST OF WHOLE PCB ASSEMBLIES

CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

| Mark | Symbol and Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | CDJ-700S/KUC | CDJ-500S/HY | CDJ-500S/SL | |
| | MOTHER BOARD ASSY | DWM2068 | DWM2068 | DWM2068 | |
| NSP | ├ DOOR BOARD ASSY | DWS1289 | DWS1289 | DWS1289 | |
| NSP | ├ LED B BOARD ASSY | DWX1819 | DWX1819 | DWX1819 | |
| | ├ MAIN BOARD ASSY | DWX1821 | DWX1821 | DWX1821 | |
| | ├ H.P BOARD ASSY | DWX1822 | DWX1822 | DWX1822 | |
| NSP | ├ LED A BOARD ASSY | DWX1824 | DWX1824 | DWX1824 | |
| NSP | └ REGULATOR BOARD ASSY | DWX1825 | DWX1825 | DWX1825 | |
| | SUB BOARD ASSY | DWX1820 | DWX1812 | DWX1811 | |
| | ├ FUNCTION BOARD ASSY | DWG1497 | DWG1497 | DWG1497 | |
| NSP | ├ TRANS BOARD ASSY | DWR1284 | DWR1286 | DWR1286 | * |
| NSP | ├ POWER SW BOARD ASSY | DWS1290 | DWS1287 | DWS1286 | |
| NSP | └ SLIDER BOARD ASSY | DWX1823 | DWX1823 | DWX1823 | |

Note * : Although DWR1284 and DWR1286 are different in part number, they consist of the same components.

## ■ CONTRAST OF PCB ASSEMBLIES

### POWER SW BOARD ASSY

DWS1287, DWS1286 and DWS1290 are constructed the same except for the following:

| Mark | Symbol and Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | DWS1290 | DWS1287 | DWS1286 | |
| ⚠ | C3 (4700pF/AC250V) | Not used | ACG7018 | ACG7018 | |
| | C4 (4700pF/AC250V) | ACG7018 | Not used | Not used | |
| | S2 | Not used | DSB1011 | DSB1014 | |

## ■ PARTS LIST FOR CDJ-700S/KUC

| Mark | No. | Description | Parts No. |
|---|---|---|---|

### D DOOR BOARD ASSY

**SEMICONDUCTORS**

| | | |
|---|---|---|
| | D609, D683 – D688 | 1SS355 |
| | D622, D623 | GP1S94 |
| | D618 – D621 | LT1H40A |

**SWITCHES AND RELAYS**

| | | |
|---|---|---|
| | S610 – S612 | DSG1061 |

**CAPACITORS**

| | | |
|---|---|---|
| | C654, C656 | CKSQYF473Z50 |

**RESISTORS**

| | | |
|---|---|---|
| | All Resistors | RS1/10S□□□J |

**OTHERS**

| | | |
|---|---|---|
| CN604 | CONNECTOR 12P | HLEM12R – 1 |

### F LED B BOARD ASSY

**SEMICONDUCTORS**

| | | |
|---|---|---|
| | D690 | MPY4361F |

# A MAIN BOARD ASSY

## SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC201 | | BA6849FP |
| | IC302 | | BA7042 |
| | IC101 | | CXA1782CQ |
| | IC301 | | CXD2500BQ |
| | IC404 | | HM514800CJ – 7 |
| ⚠ | IC92 | | ICP – N10 |
| ⚠ | IC91 | | ICP – N20 |
| ⚠ | IC102 | | LA6520 |
| | IC409 | | LH52256AN – 70LL |
| | IC206 | | MPC17A85ZVM |
| | IC103, IC106 | | NJM2068M |
| | IC104, IC901, IC902 | | NJM2904M |
| | IC801 | | NJM4556AM |
| | IC505 | | NJM4558MD |
| ⚠ | IC22 | | NJM79M05FA |
| | IC502 | | PCM1700U – J |
| | IC701 | | PD4842A |
| | IC501 | | SM5841CP |
| | IC107 | | TC4W53F |
| | IC105 | | TC4W66F |
| | IC303 | | TC7SU04F |
| | IC402, IC403 | | UPD6383GF |
| | Q101 | | 2SA854S |
| ⚠ | Q1 | | 2SB1566 |
| | Q103 | | 2SD2114K |
| | Q501 – Q504 | | 2SD2144S |
| | Q102 | | DTA124EK |
| | Q505 | | DTC124ES |
| ⚠ | D11 – D14 | | 11E2 |
| ⚠ | D51, D52 | | 1SR139 – 400 |
| | D301 – D304, D501, D701 – D705 | | 1SS355 |
| | D712, D713, D729 – D731, D734 | | 1SS355 |
| | D901 – D904 | | 1SS355 |
| | D54 | | MTZJ27A/BX |
| | D55 | | MTZJ36A/BX |
| | D502, D503 | | UDZ10B |

## COILS AND FILTERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | L101 | | LCTA100J3225 |
| | L102 | | LCTA1R0J3225 |
| | L201 | | LFA390J |
| | L401 | | LFA220K |
| | F301 | (NOISE FILTER) | VTH1016 |

## CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C304, C305 | | CCSQCH180J50 |
| | C309 | | CCSQCH221J50 |
| | C115, C148 | | CCSQCH270J50 |
| | C407, C408, C427, C428 | | CCSQCH5R0C50 |
| | C121 | | CCSQCH680J50 |
| | C533, C534 | | CEAS220M25 |
| | C31, C53 | | CEAS221M50 |
| | C515 | | CEAS3R3M50 |
| | C33 | | CEAS471M10 |
| | C306 | | CEAS471M6R3 |
| | C109, C501 | | CEJA101M10 |
| | C201 | | CEJA101M16 |
| | C124, C126, C130, C219, C318 | | CEJA101M6R3 |
| | C705 | | CEJA101M6R3 |
| | C55 | | CEJA220M50 |
| | C409, C511 | | CEJA330M10 |
| | C119, C120, C401, C413, C421 | | CEJA330M16 |
| | C429, C441, C512 | | CEJA330M16 |
| | C316, C516 | | CEJA3R3M50 |
| | C114, C513, C514 | | CEJA470M10 |
| | C315 | | CEJA470M16 |
| | C107 | | CEJA4R7M35 |
| | C308 | | CEJAR47M50 |
| | C317 | | CFTLA474J50 |
| | C110, C116, C320 | | CKSQYB102K50 |
| | C118, C131 – C133, C213, C104, C141 | | CKSQYB103K50 |
| | C220, C221, C307, C704, C905 | | CKSQYB103K50 |
| | C102, C103, C105, C108, C113 | | CKSQYB104K25 |
| | C128, C161, C162, C207 | | CKSQYB104K25 |
| | C907 | | CKSQYB105K10 |
| | C711, C712 | | CKSQYB122K50 |
| | C313, C517, C518 | | CKSQYB152K50 |
| | C106, C173, C311 | | CKSQYB222K50 |
| | C163, C903, C904 | | CKSQYB224K16 |
| | C225 | | CKSQYB332K50 |
| | C122 | | CKSQYB333K50 |
| | C111 | | CKSQYB473K25 |
| | C101, C312, C703 | | CKSQYB473K50 |
| | C129, C174 | | CKSQYB474K16 |
| | C125 | | CKSQYB562K50 |
| | C117, C153 | | CKSQYB682K50 |
| | C127 | | CKSQYB683K25 |
| | C112, C135, C137 | | CKSQYF103Z50 |
| | C152, C157, C171, C172 | | CKSQYF103Z50 |
| | C218, C222 – C224, C231, C301 | | CKSQYF103Z50 |
| | C303, C314, C319, C351 – C353 | | CKSQYF103Z50 |
| | C402, C406, C410, C412 | | CKSQYF103Z50 |
| | C422, C423, C430, C442, C502 | | CKSQYF103Z50 |
| | C519, C520, C540, C579, C591 | | CKSQYF103Z50 |
| | C702, C821, C822, C901, C902 | | CKSQYF103Z50 |
| | C202, C206, C208 – C210 | | CKSQYF104Z25 |
| | C11, C12, C123, C13 – C15 | | CKSQYF473Z50 |
| | C151, C158, C159, C16, C17 | | CKSQYF473Z50 |
| | C411, C431, C701, C706, C709 | | CKSQYF473Z50 |
| | C83, C84 | | CKSQYF473Z50 |
| | C707, C708 | | CKSQYF474Z16 |
| | C529, C530, C541, C542 | | CQMA152J50 |
| | C21 – C26 | (3300µF/16V) | DCH1093 |
| | C52 | (100µF/10V) | DCH1098 |
| | C32 | (1000µF/6.3V) | DCH1099 |
| | C405 | (1µF/25V) | DCH1101 |
| | C310 | (10µF/6.3V) | VCH1155 |
| | VC301 | | VCM1002 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **RESISTORS** | | | |
| | R402, R403 | | RD1/4PU223J |
| | R535, R536 | | RD1/4VM102J |
| | R60 | | RD1/4VM222J |
| | R539, R540, R561 – R564 | | RD1/4VM471J |
| | R533, R534 | | RD1/4VM511J |
| | R223, R224 | (0.47Ω, 1/4W) | DCN1035 |
| | R281, R282 | (1.5Ω, 1/4W) | DCN1036 |
| | R206, R207 | | RS1/10S1002F |
| | R108 | | RS1/10S2403F |
| | VR101 – VR104 | (22kΩ) | PCP1035 |
| | VR501, VR502 | (100kΩ) | PCP1044 |
| | VR201, VR202 | (100Ω) | PCP1038 |
| | | Other Resistors | RS1/10S□□□J |
| **OTHERS** | | | |
| | CN103 | MT 5P CONNECTOR | 173981 – 5 |
| | CN501 | 3P JUMPER CONNECTOR | 52147 – 0310 |
| | CN201 | CONNECTOR | 52207 – 1590 |
| | | PCB BINDER | DEF1012 |
| | CN101 | CONNECTOR (17P) | DKC1005 |
| | X401, X402 | CERAMIC RESONATOR (24.576MHz) | DSS1054 |
| | CN701 | CONNECTOR | HLEM38S – 1 |
| | CN12 | CONNECTOR(4P) | KPC4 |
| | CN11 | CONNECTOR(7P) | KPC7 |
| | JA501 | JACK | PKB1023 |
| | JA502 | JACK | RKN1004 |
| | | PCB BINDER | VEF1040 |
| | CN202 | 4P CONNECTOR | VKN1235 |
| | KN1 | EARTH METAL FITTING | VNF1084 |
| | X701 | CERAMIC RESONATOR (4.19MHz) | VSS1014 |
| | X301 | CRYSTAL RESONATOR (16.9344MHz) | VSS1084 |

## B H.P BOARD ASSY

| | | | |
|---|---|---|---|
| **CAPACITORS** | | | |
| | C813 – C815 | | CKSQYF103Z50 |
| **RESISTORS** | | | |
| | VR801 | (5kΩ – B) | DCS1043 |
| **OTHERS** | | | |
| | JA801 | JACK | DKN1179 |

## E LED A BOARD ASSY

| | | |
|---|---|---|
| **SEMICONDUCTORS** | | |
| | D689 | MPY4361F |

## J REGULATOR BOARD ASSY

| | | |
|---|---|---|
| **SEMICONDUCTORS** | | |
| ⚠ | IC23 | PQ05RR12 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **RESISTORS** | | | |
| | | All Resistors | RS1/10S□□□J |

## C FUNCTION BOARD ASSY

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC602 | | TC74HC175AF |
| | Q601 – Q604 | | 2SC2412K |
| | Q608 – Q611 | | DTA124EK |
| | D601 – D608, D610 – D613 | | 1SS355 |
| | D624, D625, D691 | | 1SS355 |
| | D614, D615 | | GL5EG8 |
| | D616, D617 | | GL5HY8 |
| **SWITCHES AND RELAYS** | | | |
| | S603, S606 | | DSG1056 |
| | S607 – S609, S613 | | PSG1006 |
| | S601, S602, S604, S605 | | RSG1030 |
| **CAPACITORS** | | | |
| | C602 – C605, C608, C609 | | CKSQYF103Z50 |
| | C613, C614 | | CKSQYF103Z50 |
| | C610 | | CKSQYF473Z50 |
| **RESISTORS** | | | |
| | | All Resistors | RS1/10S□□□J |
| **OTHERS** | | | |
| | CN606 | 6PJUMPER CONNECTOR | 52151 – 0610 |
| | CN603 | CONNECTOR 12P | 52492 – 1220 |
| | | FL HOLDER | DEB1358 |
| | V601 | FL INDICATOR TUBE | DEL1029 |
| | CN601 | CONNECTOR | HLEM38R – 1 |
| | CN605 | KR CONNECTOR | S2B – PH – K – S |

## I TRANS BOARD ASSY

| | | | |
|---|---|---|---|
| **COILS AND FILTERS** | | | |
| ⚠ | L1 | LINE FILTER (L=800μH) | DTL1016 |
| **CAPACITORS** | | | |
| ⚠ | C1, C2 | (10000pF/AC250V) | ACG7020 |
| **OTHERS** | | | |
| | J1 | PARALLEL CORD | DXWY0720E |
| ⚠ | | TERMINAL | RKC – 061 |
| | H1, H2 | HOLDER | RKR1003 |

## H POWER SW BOARD ASSY

| | | | |
|---|---|---|---|
| **CAPACITORS** | | | |
| ⚠ | C4 | (4700pF/AC250V) | ACG7018 |
| **OTHERS** | | | |
| ⚠ | J2 | | DDF1012 |

## G SLIDER BOARD ASSY

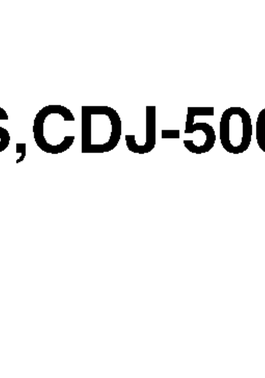
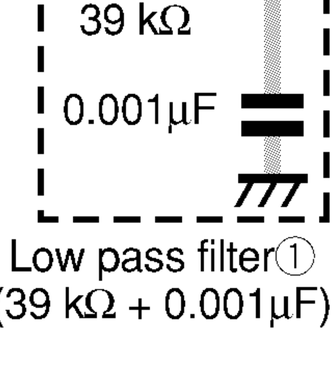
| | | | |
|---|---|---|---|
| **RESISTORS** | | | |
| | VR601 | (50kΩ – B×2) | DCV1007 |
| **OTHERS** | | | |
| | J606 | PARALLEL WIRE | D20PWY0615E |

# 6. ADJUSTMENT

## 6.1 ELECTRIC ADJUSTMENTS

### 6.1.1 PREPARATIONS

1.1 Jigs and Measuring Instruments

| | | | | |
|---|---|---|---|---|
|  8-cm DISC (With at least about 20 minutes recording) |  CD TEST DISC (YEDS-7) |  ⊖ Precise screwdriver | ⊖ screwdriver (small) |  ⊕ screwdriver (medium) |
| | ⊕ screwdriver (large) |  Low-frequency oscillator |   Dual-trace oscilloscope (10 : 1 probe) |   Low pass filter① (39 kΩ + 0.001µF) |
| | | | | Low pass filter② (39 kΩ + 0.0018µF) |
| | | | |   Resistor (100 kΩ ) |

1.2 Necessary Adjustment Points

| When | Adjustment points |
|---|---|
| Exchange MAIN BOARD ASSY | 1.2.3.4.5.6.7 → Page 45～47 |
| Exchange SERVO MECA ASSY | 1.3.4.5.6.8 → Page 45～48 |

## 6.1.2 ADJUSTMENT

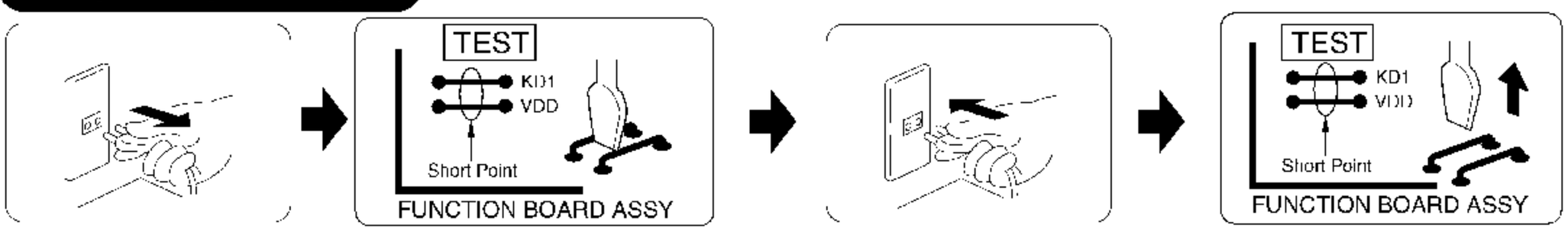
### Precautions for Test Mode

(1) If a soiled or damaged disc is played back and a GFS error is generated, the system may not perform a STOP operation and may run out of control, although muting ON/OFF will be performed. If the system does run out of control, press the CUE key to switch the power OFF.
(2) Do NOT press any key while an OPEN/CLAMP, SPINDLE KICK, or FOCUS SEARCH operation is in progress. Be sure to wait until the operation is completed before calling the next operation.
(3) Key operation can be done only when the servo mechanism is in the Clamped position (door closed).

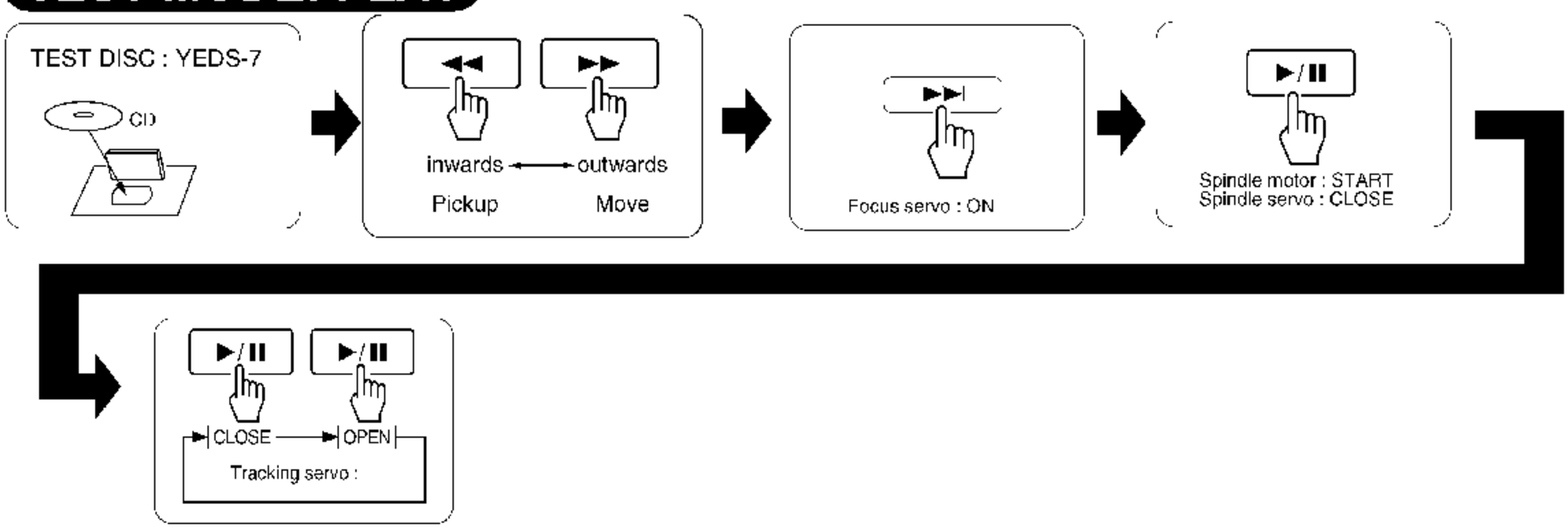
---

1. How to Start/Cancel Test Mode

**TEST MODE: ON**

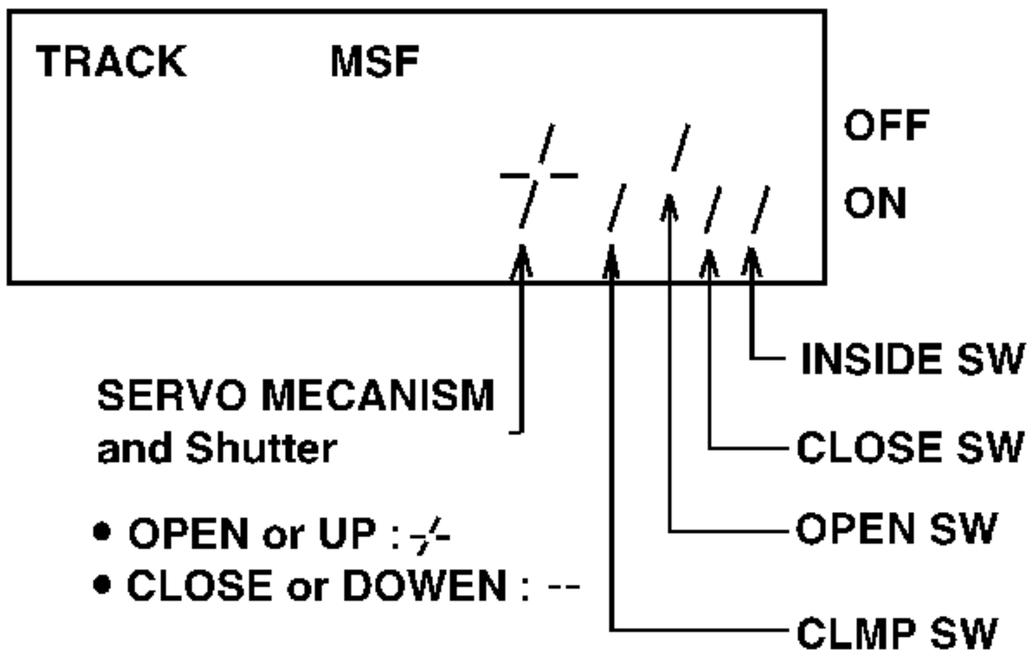


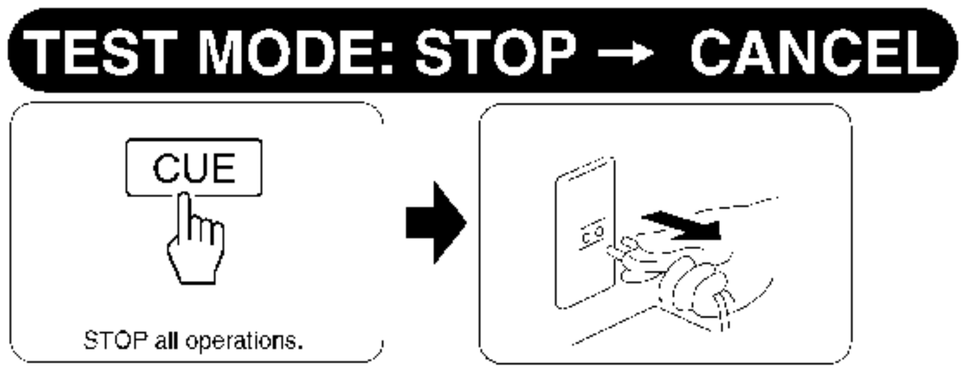

**TEST MODE: PLAY**



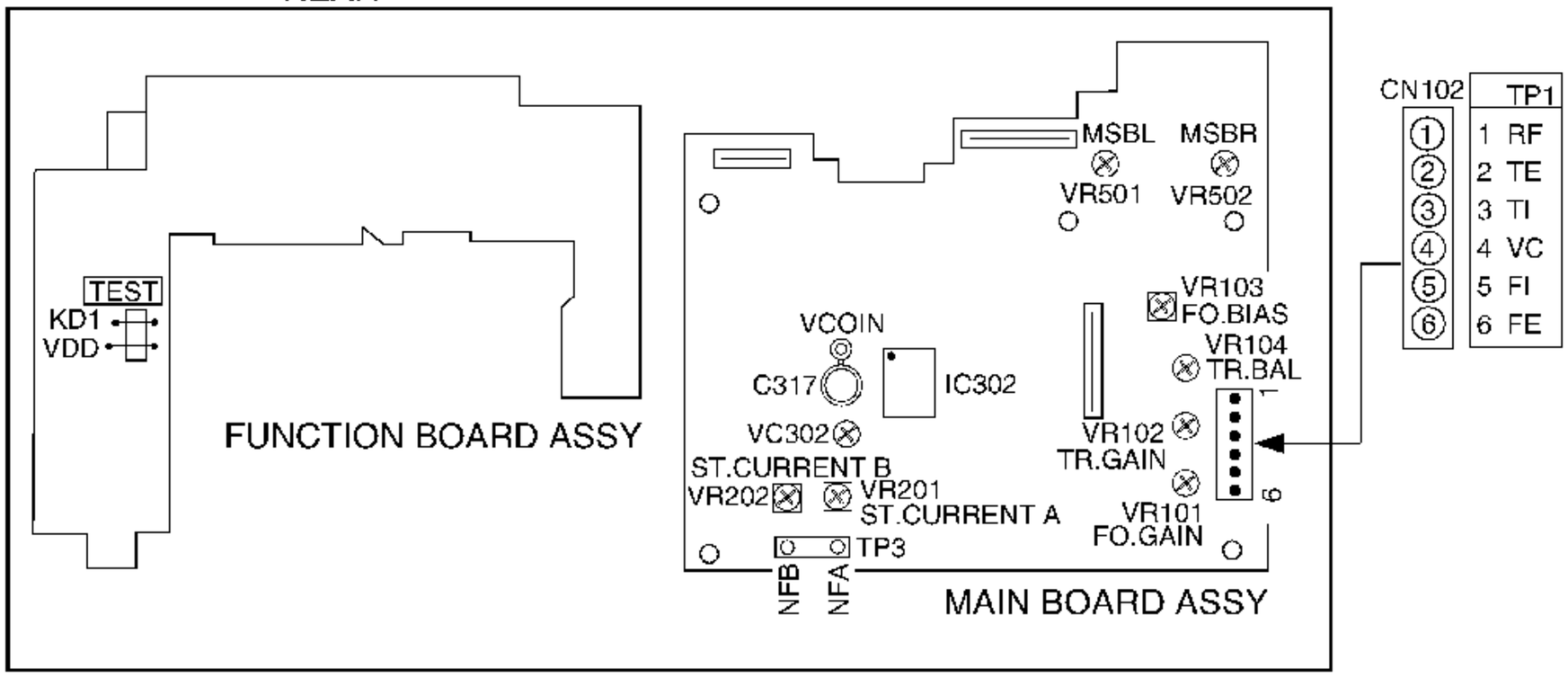

**TEST MODE: DISPLAY**

Switch status display



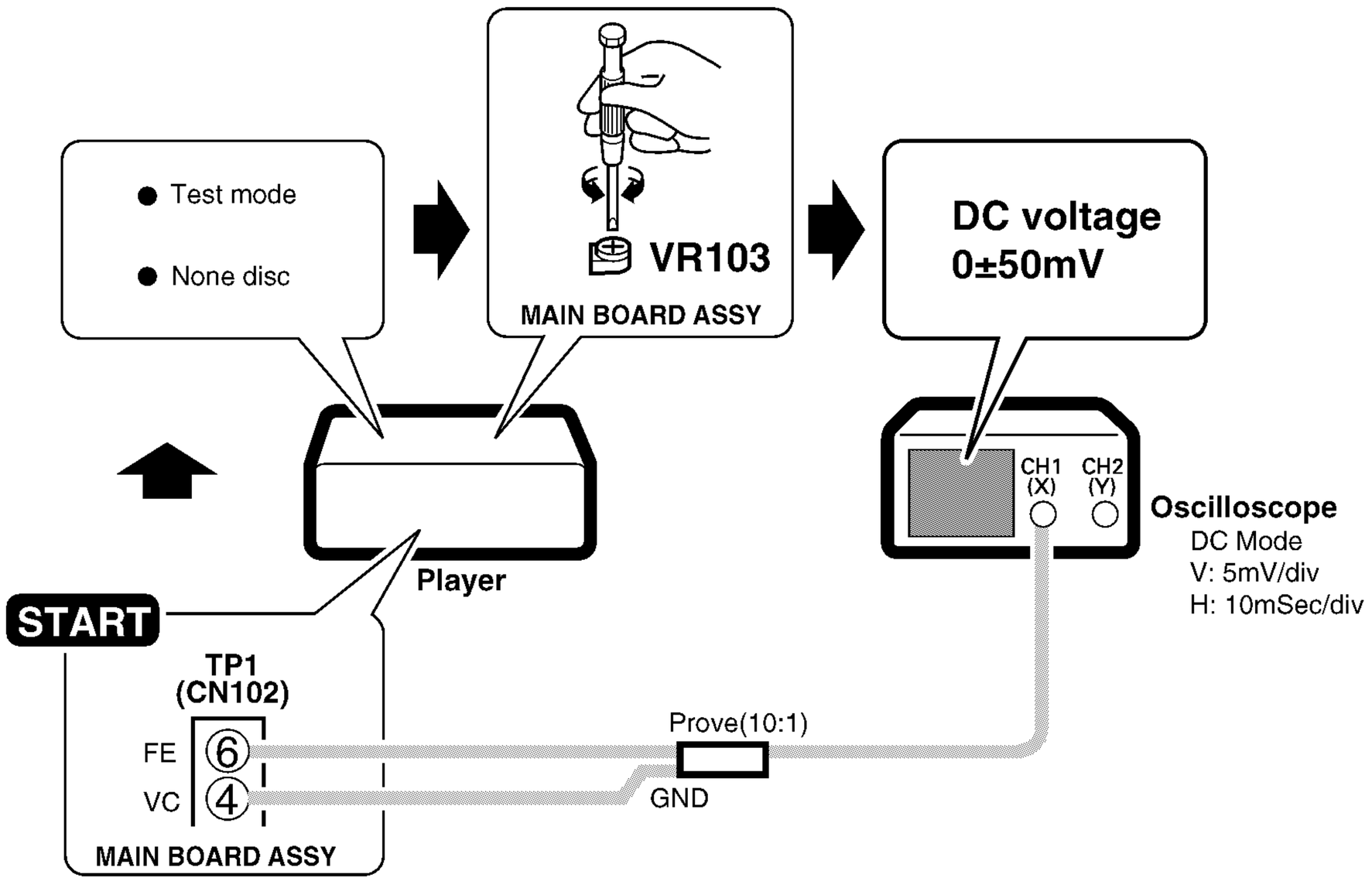



## 2. Adjustment Locations



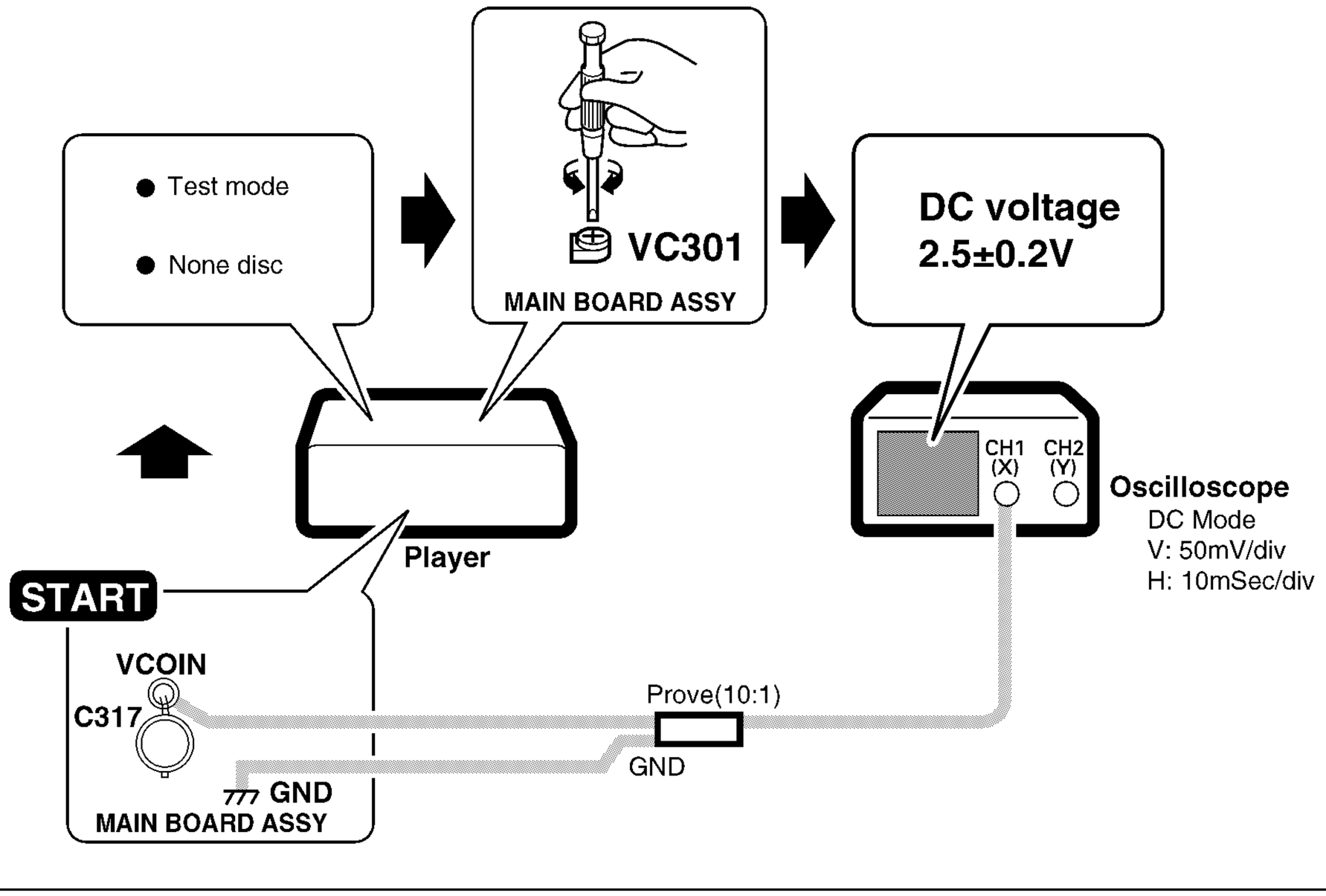
6.2 CHECK AND ADJUSTMENTS

## 1. Focus BIAS Adjustment

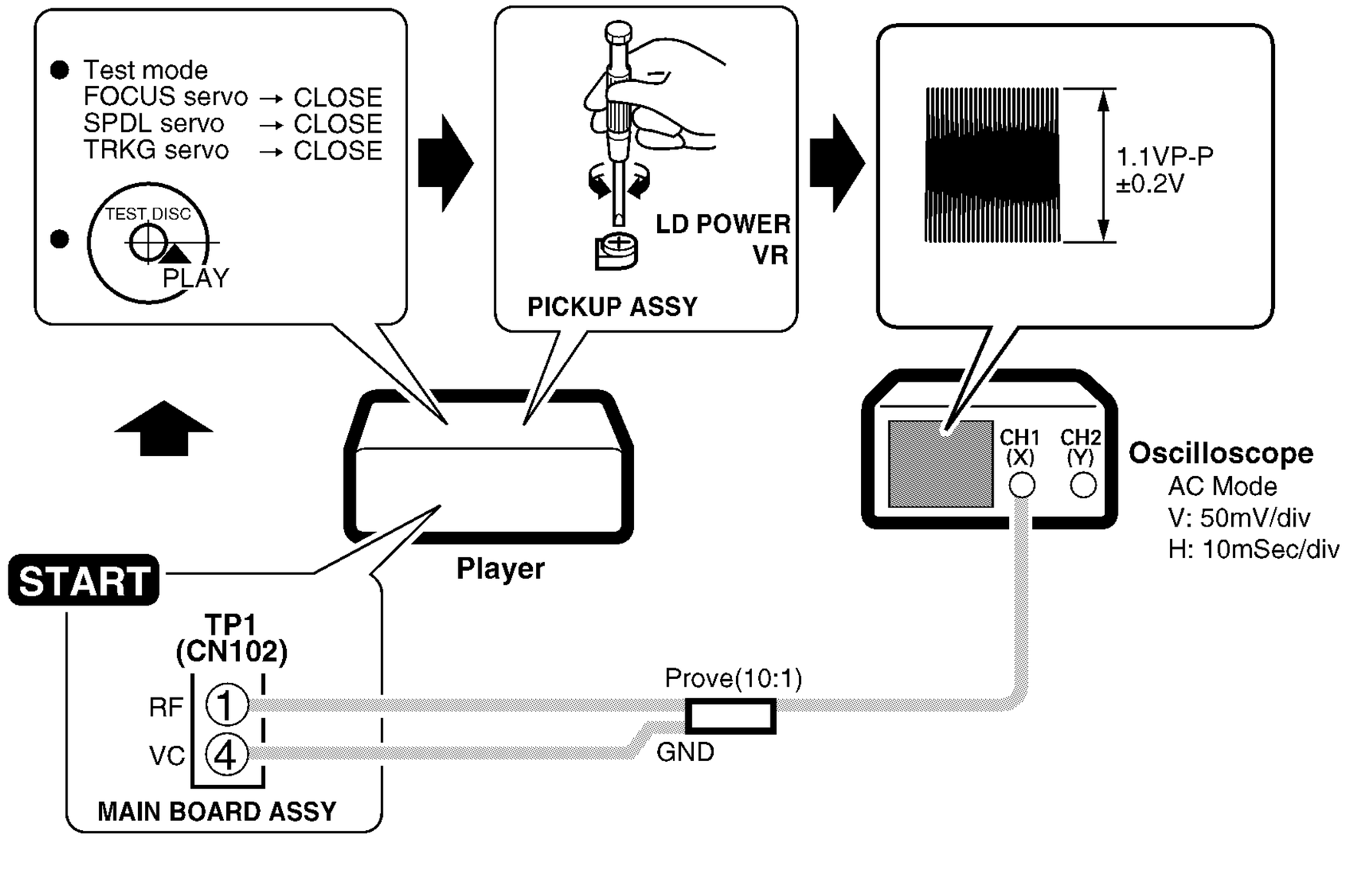



## 2. Vco Adjustment

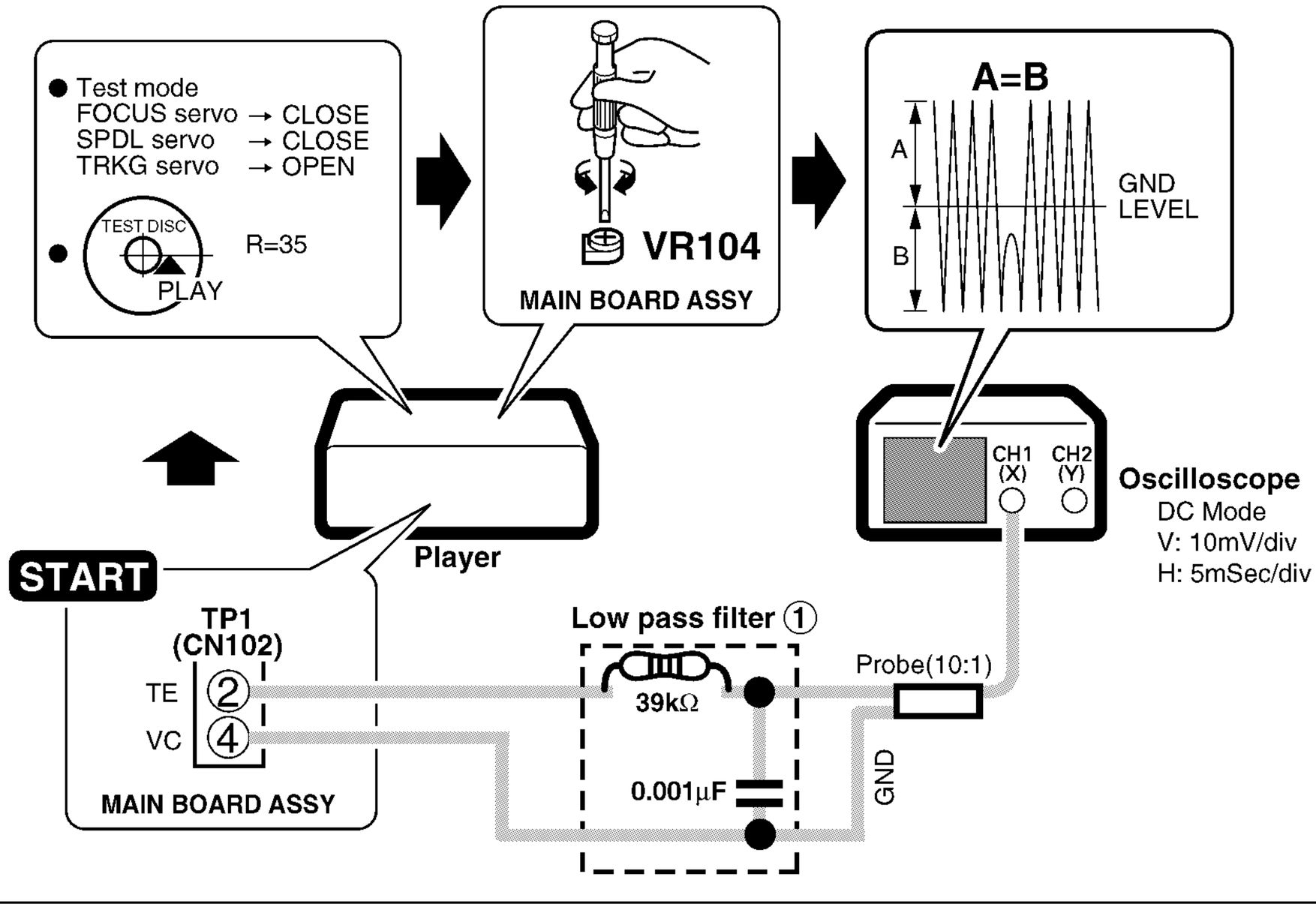
Note : Adjustment of VC301 may not be made if the LOADING MECHANISM ASSY is installed. Before adjustment, remove the LOADING MECHANISM ASSY.



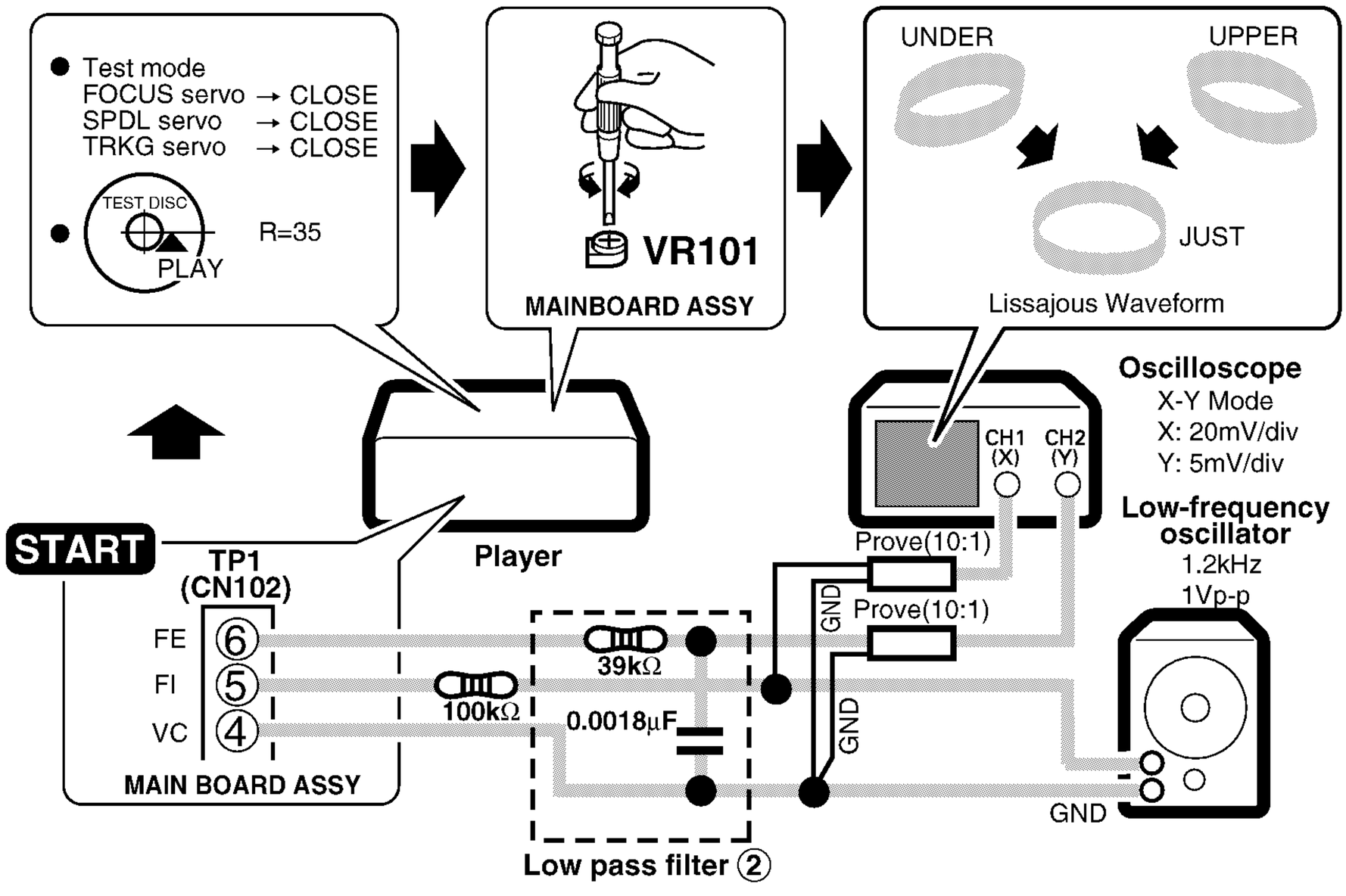
## 3. RF LEVEL ADJUSTMENT



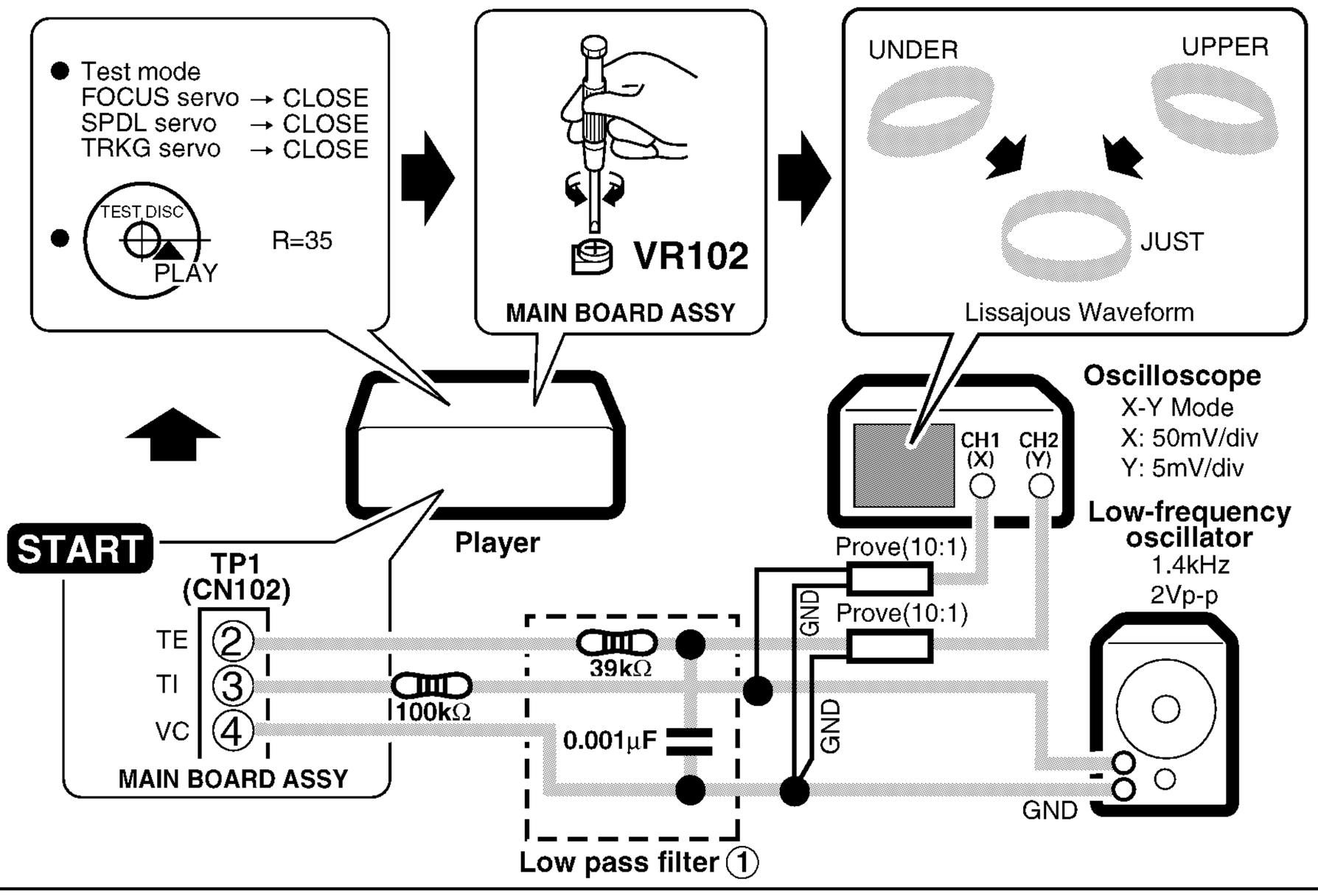

## 4. Tracking Error Barance Adjustment



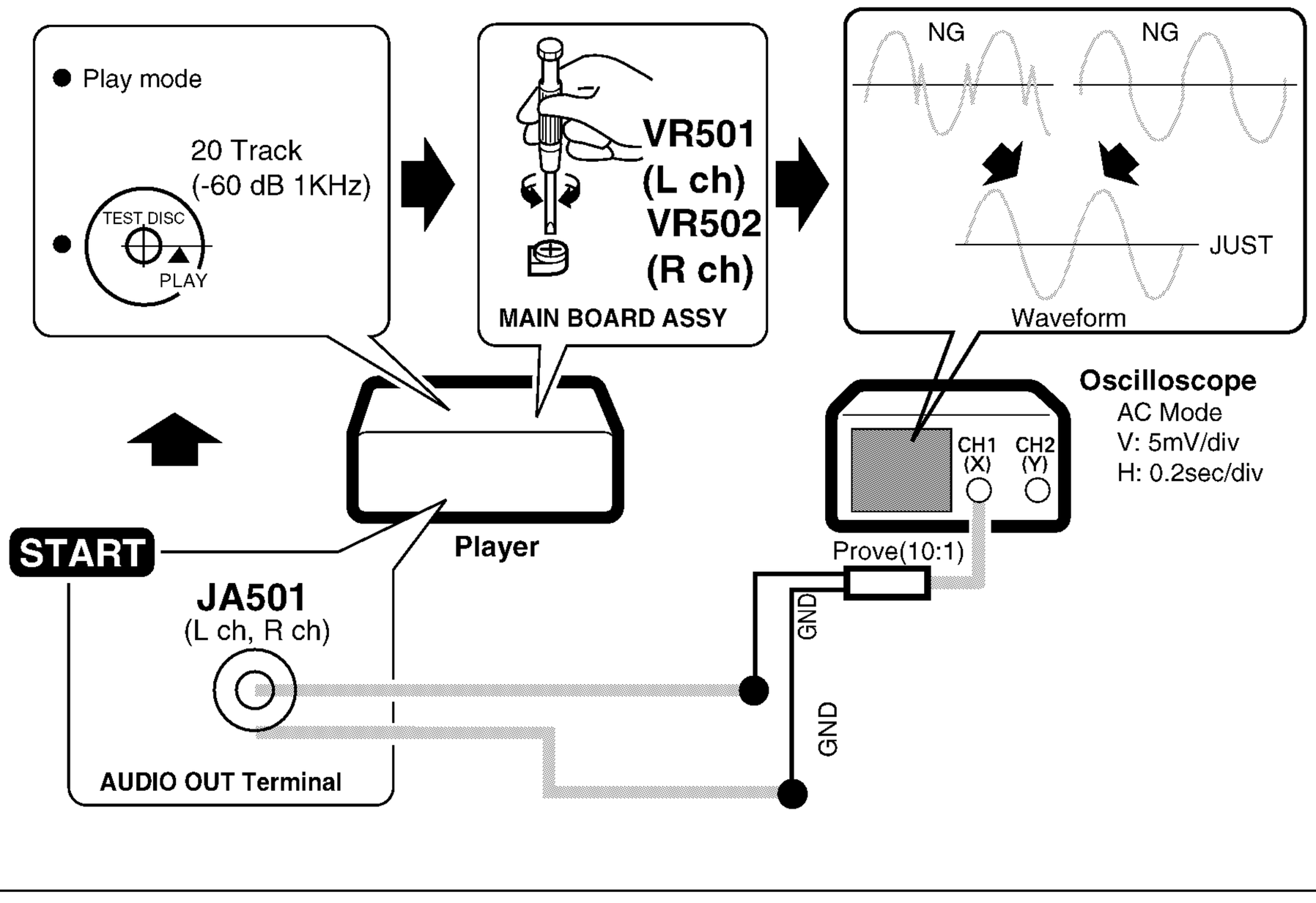
## 5. Focus Servo Loop Gain Adjustment



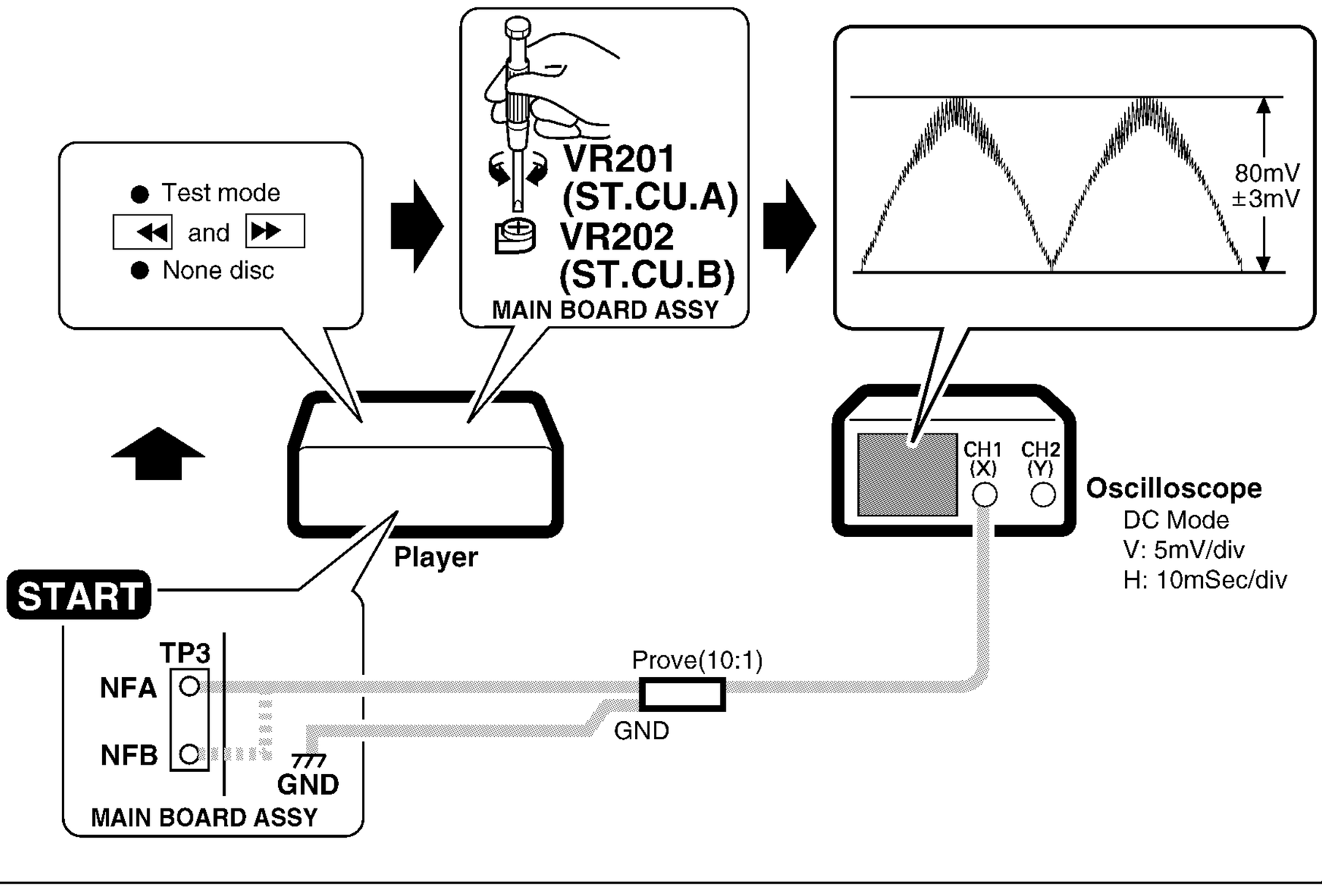

## 6. Tracking Servo Loop Gain Adjustment



## 7. MSB Adjustment




## 8. Stepper Current Adjustment



# 7. GENERAL INFORMATION

## 7.1 PARTS

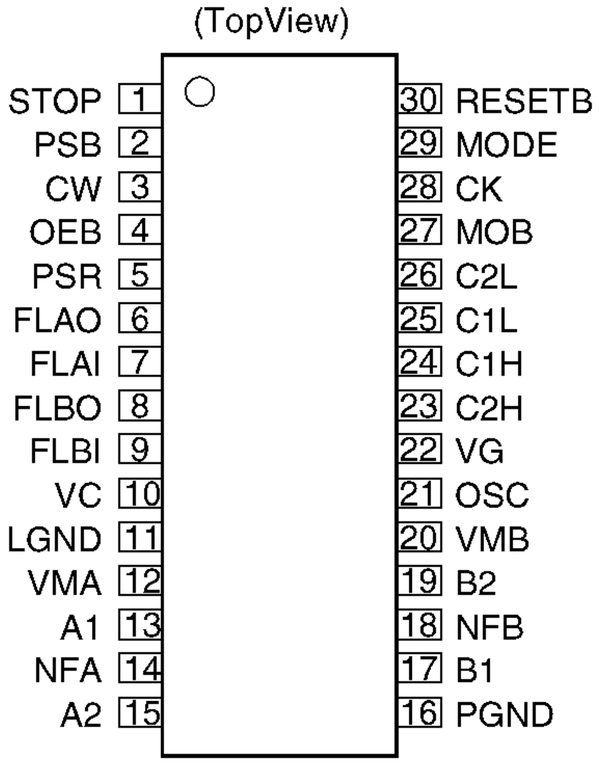
### 7.1.1 IC

### ■ MPC17A85ZVM (IC206:MAIN BOARD ASSY)

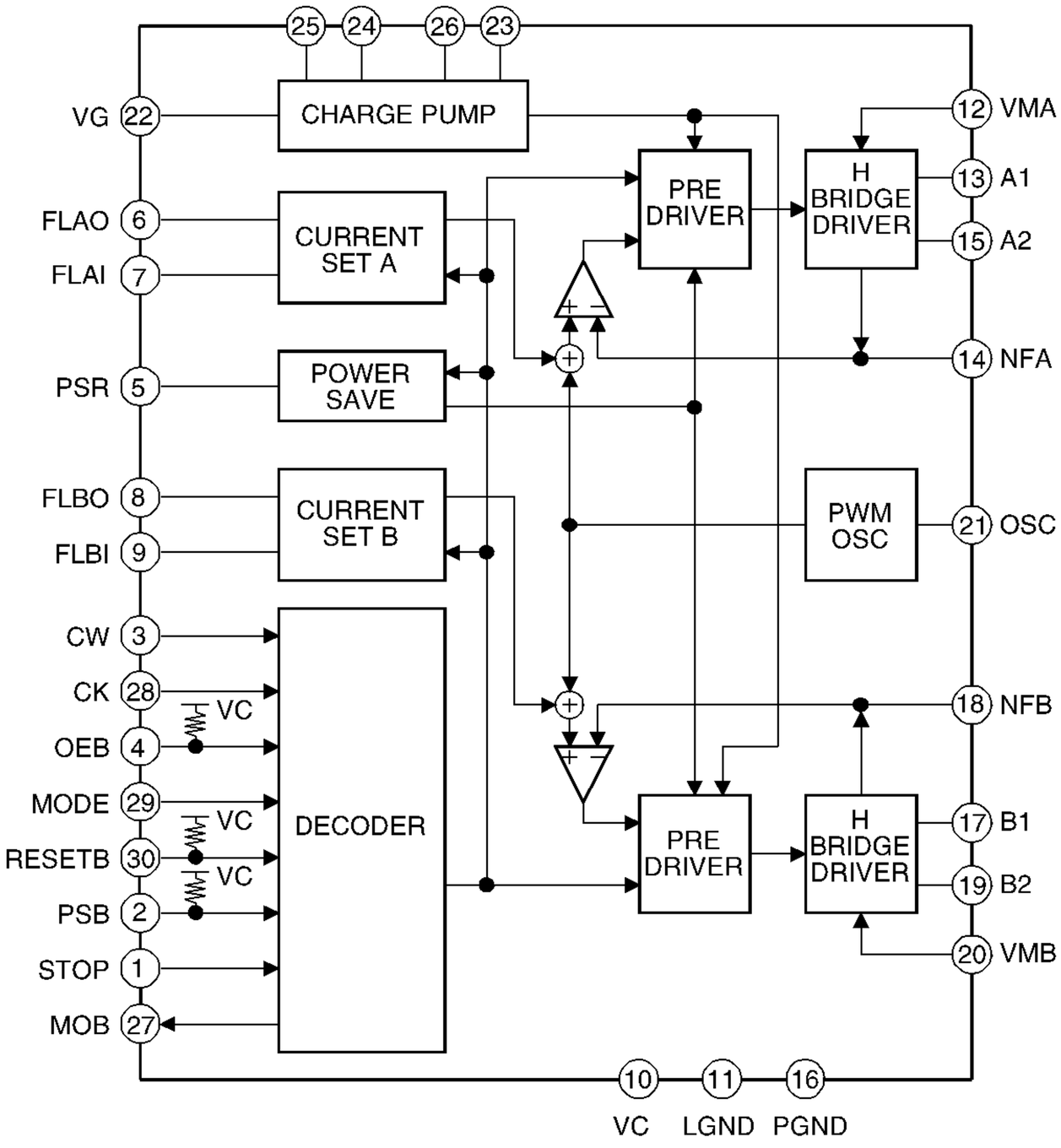
### ● STEPPING DRIVER IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

### ● Pin Assignment (Top View)




### ● Block Diagram




### ● Pin Function

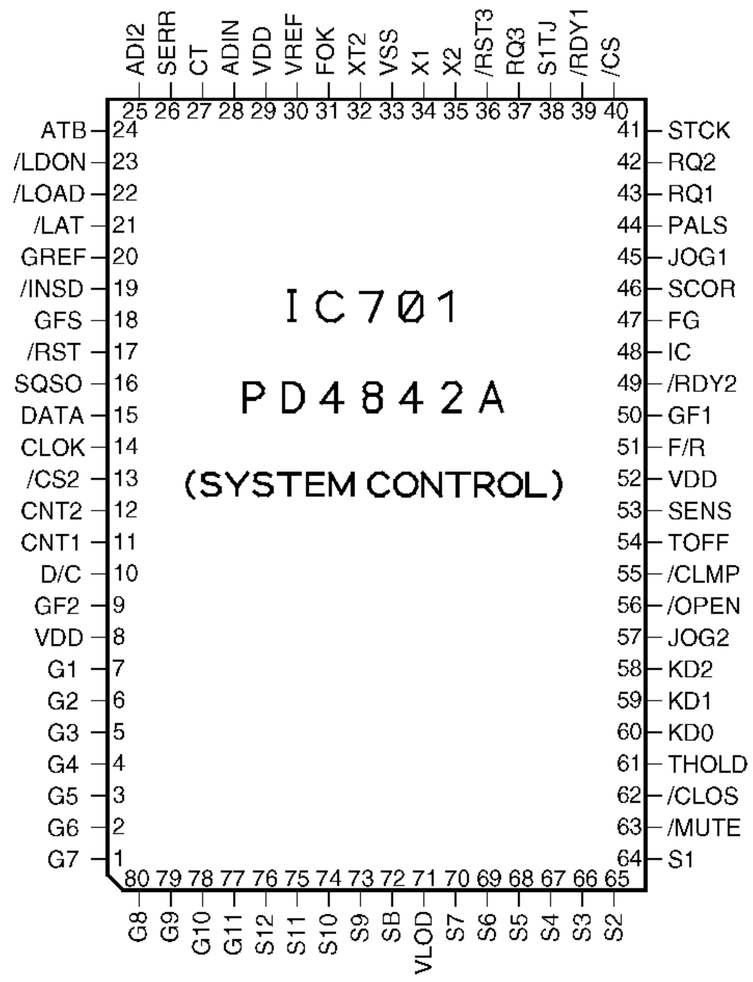
| No. | Pin Name | Function |
|---|---|---|
| 1 | STOP | STOP pin. When H, STOP state remains in force until MOB is L. |
| 2 | PSB | Power Save mode pin. When L, Power Save mode remains in force until MOB is L. |
| 3 | CW | Forward/reverse toggle pin. |
| 4 | OEB | Output enable pin. |
| 5 | PSR | Power Save current-setting pin. |
| 6 | FLAO | Filter-connection pin. |
| 7 | FLAI | |
| 8 | FLBO | |
| 9 | FLBI | |
| 10 | VC | Power pin for the control section. |
| 11 | LGND | Control section ground. |
| 12 | VMA | Power pin for the power section. (channel A) |
| 13 | A1 | A-phase output pin. |
| 14 | NFA | A-phase feedback resistance connection pin. |
| 15 | A2 | A-phase output pin. |

| No. | Pin Name | Function |
|---|---|---|
| 16 | PGND | Power section ground. |
| 17 | B1 | B-phase output pin. |
| 18 | NFB | B-phase feedback resistance connection pin. |
| 19 | B2 | B-phase output pin. |
| 20 | VMB | Power pin for the power section. (channel B) |
| 21 | OSC | Capacitor connection pin. |
| 22 | VG | Capacitor connection pin for the charge pump. VG voltage input pin. |
| 23 | C2H | Step-up capacitor connection pin. |
| 24 | C1H | |
| 25 | C1L | |
| 26 | C2L | |
| 27 | MOB | Phase-detection monitor pin. |
| 28 | CK | Clock input pin. |
| 29 | MODE | Mode-toggle pin. (32/64 steps) H : 64, L : 32 |
| 30 | RESETB | Reset pin. L : reset |

## ■ PD4842A (IC701 : MAIN BOARD ASSY)

### ● SYSTEM CONTROL μ COM

### ● Pin Assignment(Top View)




### ● Pin Function

| No. | Port | Pin Name | I/O | Function |
|---|---|---|---|---|
| 1 | FIP6 | GRID 7 | OUT | FL grid output 7. |
| 2 | FIP5 | GRID 6 | OUT | FL grid output 6. |
| 3 | FIP4 | GRID 5 | OUT | FL grid output 5. |
| 4 | FIP3 | GRID 4 | OUT | FL grid output 4. |
| 5 | FIP2 | GRID 3 | OUT | FL grid output 3. |
| 6 | FIP1 | GRID 2 | OUT | FL grid output 2. |
| 7 | FIP0 | GRID 1 | OUT | FL grid output 1. |
| 8 | VDD | VDD | - | Connect to VDD. |
| 9 | P27 | GF2 (SAMP) | IN- | DSP memory sampling. |
| 10 | P26 | C/D | OUT | DSP command/data selection. (L : command) |
| 11 | P25 | CNT1 | IN | External control I/O. |
| 12 | P24 | CNT2 | IN | External control input. |
| 13 | P23 | CS2 | OUT | DSP chip select 2. (L : select) |
| 14 | SCK1 | CLOK | OUT | Serial clock. (for CXD2500 & DSP) |
| 15 | SO1 | DATA | OUT | Serial data output. (for CXD2500 & DSP) |
| 16 | SI1 | SQSO | IN | Sub-code Q serial data input. |
| 17 | RESET | RST | IN | CPU reset. (L : reset) |
| 18 | P74 | GFS | IN | Frame sync lock input. (H : OK, L : NG) |
| 19 | P73 | INSD | IN | Slider inside switch input. (L : inside) |
| 20 | AVSS | GND ref | - | Ground potential for the A/D converter. |
| 21 | P17 | XLAT | OUT | LSI control data latch pulse. |
| 22 | P16 | LOAD | IN | Shutter motor output. (IN : STOP) |
| 23 | P15 | LDON | OUT | Laser diode output. (L : OFF, H : ON) |
| 24 | P14 | ATB | IN | A/D input for ATB. (above 0.5 V : ATB, below : no ATB) |
| 25 | P13 | ADI2 | IN | Slider voltage input. |
| 26 | P12 | SERR | IN | A/D input to control the stepping motor. |
| 27 | P11 | CT | IN | Slider center tap voltage input. |
| 28 | P10 | ADIN | IN | Slider voltage input. |
| 29 | AVDD | VDD | - | Analog power for the A/D converter. |

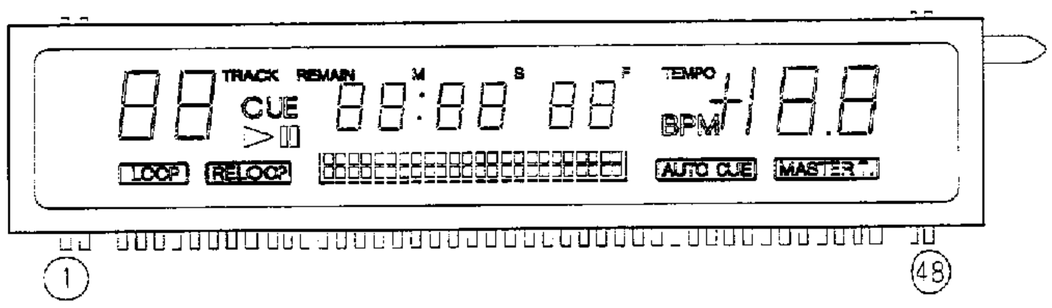
| No. | Port | Pin Name | I/O | Function |
|---|---|---|---|---|
| 30 | AVREF | VDD ref | - | Standard voltage input for the A/D converter. |
| 31 | P04 | FCOK | IN | Focus OK input. (H : OK, L : NG) |
| 32 | XT2 | XT2 | - | Not used. |
| 33 | VSS | GND | - | Connect to ground. |
| 34 | X1 | X1 | - | Oscillator pulses for the main system. (4.194304 MHz) |
| 35 | X2 | X2 | - | Oscillator pulses for the main system. (4.194304 MHz) |
| 36 | P37 | RST3 | OUT | Reset output for peripheral ICs. (for digital filter and DSP [L : reset]) |
| 37 | P36 | RQ3 (PLAY) | OUT | DSP memory play. |
| 38 | P35 | S1TJ | OUT | Servo control output. |
| 39 | P34 | RDY | IN | DSP READY input. (L : READY) |
| 40 | P33 | CS | OUT | DSP chip select. (L : select) |
| 41 | P32 | STCK | OUT | Stepping motor control output. |
| 42 | P31 | RQ2 (WRIT) | OUT | DSP memory write (H : write). |
| 43 | P30 | RQ1 (READ) | OUT | DSP memory read (H : read). |
| 44 | INTP3 | PALS | IN | Interrupt input for RAM-internal display pulses. |
| 45 | INTP2 | JOG1 | IN | Interrupt input for jog dial pulses. |
| 46 | INTP1 | SCOR | IN | Interrupt input for sub-code sync. |
| 47 | INTP0 | FG | IN | FG pulse input. |
| 48 | IC | IC | - | Connect to ground. |
| 49 | P72 | RDY2 | IN | DSP READY 2 input. (L : READY) |
| 50 | P71 | GF1 (CMP) | IN | DSP data compare input. (H : comparing) |
| 51 | P70 | F/R | OUT | Stepping motor forward/reverse output. |
| 52 | VDD | VDD | - | Connect to VDD. |
| 53 | P127 | SENS | IN | LSI operation status input. |
| 54 | P126 | TOFF | OUT | Analog switch output. (H/L for tracking ON/OFF, H : track counter search) |
| 55 | P125 | CLMP | IN | Clamping completed switch input. |
| 56 | P124 | OPEN | IN | Switch input for servo mechanism down completed. |
| 57 | P123 | JOG2 | IN | Jog dial pulse input. |
| 58 | P122 | KD2 | IN | Key-scan data input. |
| 59 | P121 | KD1 | IN | |
| 60 | P120 | KD0 | IN | |
| 61 | P117 | THOLD | OUT | Analog switch output. (1, 14, 30Tr JUMP : L) |
| 62 | P116 | CLOS | IN | Switch input for door close completed. |
| 63 | P115 | MUTE | OUT | Muting output. (L : on, H : off) |
| 64 | FIP22 | SEG 1 | OUT | FL segment output 1. |
| 65 | FIP21 | SEG 2 | OUT | FL segment output 2. |
| 66 | FIP20 | SEG 3 | OUT | FL segment output 3. |
| 67 | FIP19 | SEG 4 | OUT | FL segment output 4. |
| 68 | FIP18 | SEG 5 | OUT | FL segment output 5. |
| 69 | FIP17 | SEG 6 | OUT | FL segment output 6. |
| 70 | FIP16 | SEG 7 | OUT | FL segment output 7. |
| 71 | VLOAD | VLOAD | - | Connected to FIP controller/driver pull-down resistance. (-31V) |
| 72 | FIP15 | SEG 8 | OUT | FL segment output 8. |
| 73 | FIP14 | SEG 9 | OUT | FL segment output 9. |
| 74 | FIP13 | SEG 10 | OUT | FL segment output 10. |
| 75 | FIP12 | SEG 11 | OUT | FL segment output 11. |
| 76 | FIP11 | SEG 12 | OUT | FL segment output 12. |
| 77 | FIP10 | GRID 11 | OUT | FL grid output 11. |
| 78 | FIP9 | GRID 10 | OUT | FL grid output 10. |
| 79 | FIP8 | GRID 9 | OUT | FL grid output 9. |
| 80 | FIP7 | GRID 8 | OUT | FL grid output 8. |

## 7.1.2 DISPLAY

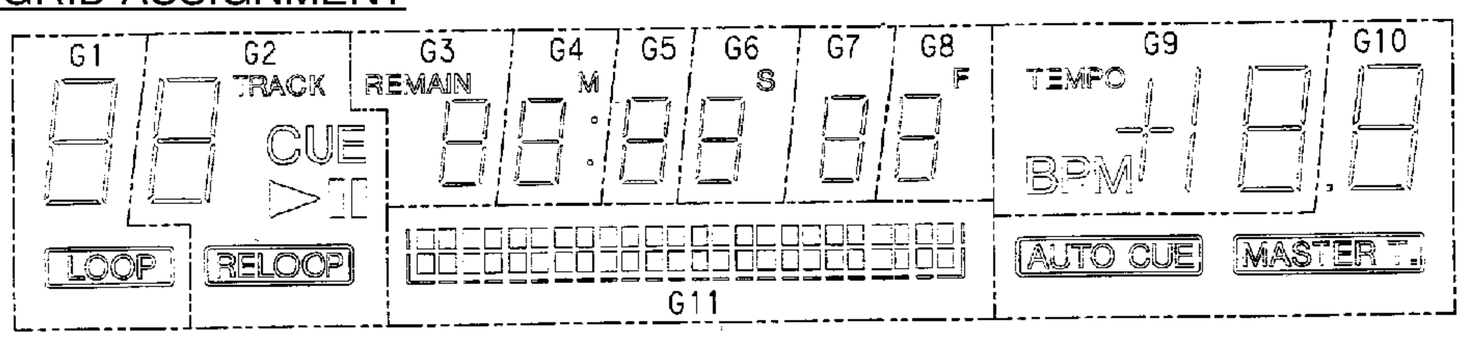
### ■ DEL1029(V601:FUNCTION BOARD ASSY)

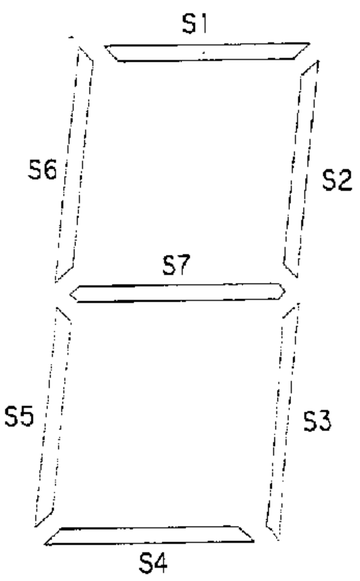
### ● FL TUBE

PIN ASSIGNMENT

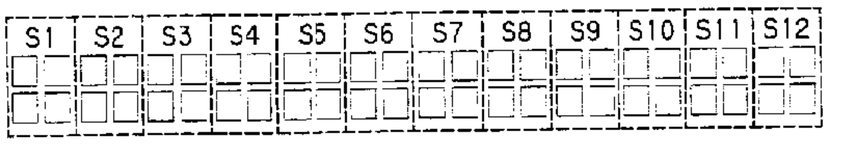


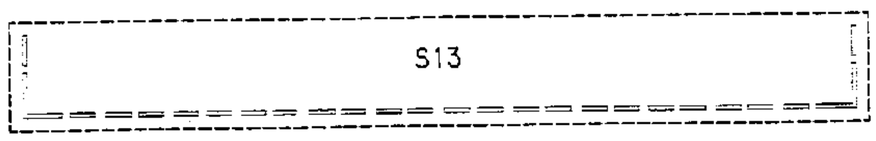

ANODE GRID ASSIGNMENT




G1~G10




G11

| | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | S1 | |
| S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | S2 | |
| S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | S3 | |
| S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | S4 | |
| S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | S5 | |
| S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | S6 | |
| S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | S7 | |
| S8 | | > | | ° ° | | S | | | + | MASTER T. | |
| S9 | | CUE | | M | | | | | + | | |
| S10 | LOOP | ▯[ | REMAIN | | | | | | / | AUTO CUE | |
| S11 | | RELOOP | | | | | | F | BPM | ▫ | |
| S12 | | TRACK | | | | | | | TEMPO | | |
| S13 | | | | | | | | | | | |

PIN CONNECTION

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assignment | F1 | F1 | NP | NL | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | S13 | S2 |

| Pin No. | 18 | 19 | 20 | 21 | 22 ~ 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assignment | S6 | S7 | S8 | S1 | NL | S9 | S10 | S11 | S12 | S3 | S4 | S5 | NL | NP | F2 | F2 |

F:Filament G1~G11:Grid S1~S13:Anode NP:No pin NL:No Lead

## 7.2 DIAGNOSIS

### 7.2.1 ERROR CORD DISPLAY

#### ■ Error display

When the player detects an error during operation, if will immediately stop and display an error code in the display window.

| Displayed error code number | Type of error | Error contents | Possible Cause → Remedy |
|---|---|---|---|
| E-72 01 | TOC READ ERROR | TOC date cannot be read after 20 seconds | The disc is soiled. |
| E-72 02 | FG PULSE ERROR | Disc is rotating, but rotation cannot be ascertained. | Either IC201 (spindle driver IC) or Pin 47 of IC701 (control microprocessor) is damaged. |
| E-83 01 | PLAYER ERROR | Disc loaded cannot be played properly (GFS NG:2sx3). | The disc is soiled.<br>The disc is scarred. |
| E-83 02 | PLAYER ERROR | Disc loaded cannot be played properly (FOCUS NG:0.1sx3) | The disc is soiled.<br>The disc is scarred. |
| E-91 01 | MECHANICAL TIME OUT | Mechanical operation did not end in allotted time (CLAMP:4s) | The loading mechanism is defective. |
| E-91 02 | MECHANICAL TIME OUT | Mechanical operation did not end in allotted time (OPEN: 4s) | The door opening/closing mechanism is defective.<br>An object is placed on the door. |
| E-91 03 | MECHANICAL TIME OUT | Mechanical operation did not end in allotted time (INSIDE: 5s) | The servo mechanism is defective. |

### 7.2.2 DISASSEMBLY

#### ■ REMOVING THE CONTROL PANEL (Fig 1)

1. Switch the power ON, then press the EJECT button to open the door. (CAUTION 1)
2. Disconnect the power cable from the AC outlet.
3. Remove the 4 screws ① securing the control panel.
4. Put the control panel back the chassis. Be careful to injure.

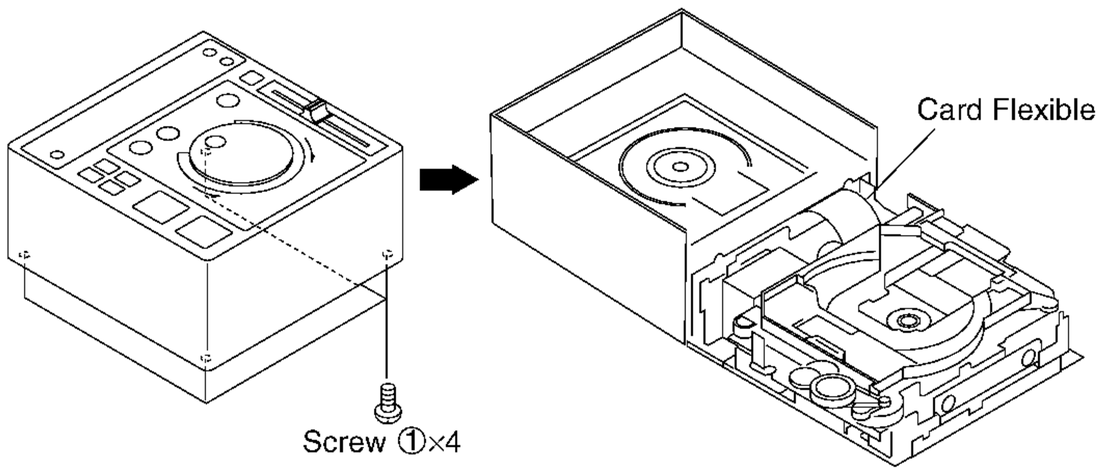



**Fig 1**

<< PRECAUTIONS >>

Be sure to disconnect the power cable from the AC outlet whenever removing the card flexible cable from the connector for maintenance, etc. Hold the both sides of the card flexible cable with both hands to disconnect the cable straight. (Even if the power has been switched OFF, previously charged voltage may remain in the capacitor, etc. If the electrodes of the card flexible cable and those of the connector come in contact by accident, a malfunction may occur.)

#### ■ (CAUTION 1) IMPORTANT HOW TO OPEN THE DOOR DURING AN EMERGENCY (Fig 2)

If the door does not open for some reasons when the EJECT button is pressed, use the following steps to open the door manually.

1. Disconnect the power cable from the AC outlet.
2. Make a key by using a paper clip or similar material. (A metal stick 1mm in diameter and 50mm in length may be used.)
3. Insert the key perpendicularly into the hole as shown in the illustration above, then push down the key toward the right. The lock hook assy can now be shifted to open the door.

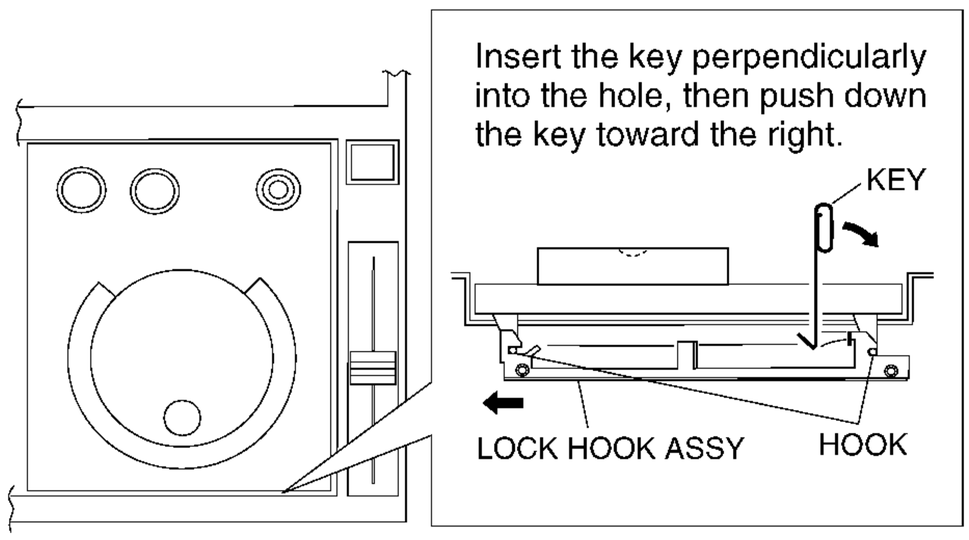



**Fig 2**

## ■ REMOVING THE TRAY ASSY (Fig 3)

1. Remove the 4 screws ① that secure the tray.
2. Remove the tray assy from the loading mechanism assy.②

## ■ REMOVING THE LOADING MECANISM ASSY (Fig 3)

1. Remove the tray assy. ①, ②
2. Remove the earth lead screw ③.
3. Remove the springs on the other side ④ in 4 places.
4. Remove the bushing dampers in 2 places ⑥, ⑦ by turning them counterclockwise.
5. Remove the S flexible L ⑧.
6. Remove the flexible ⑨ of the pulse motor frame.

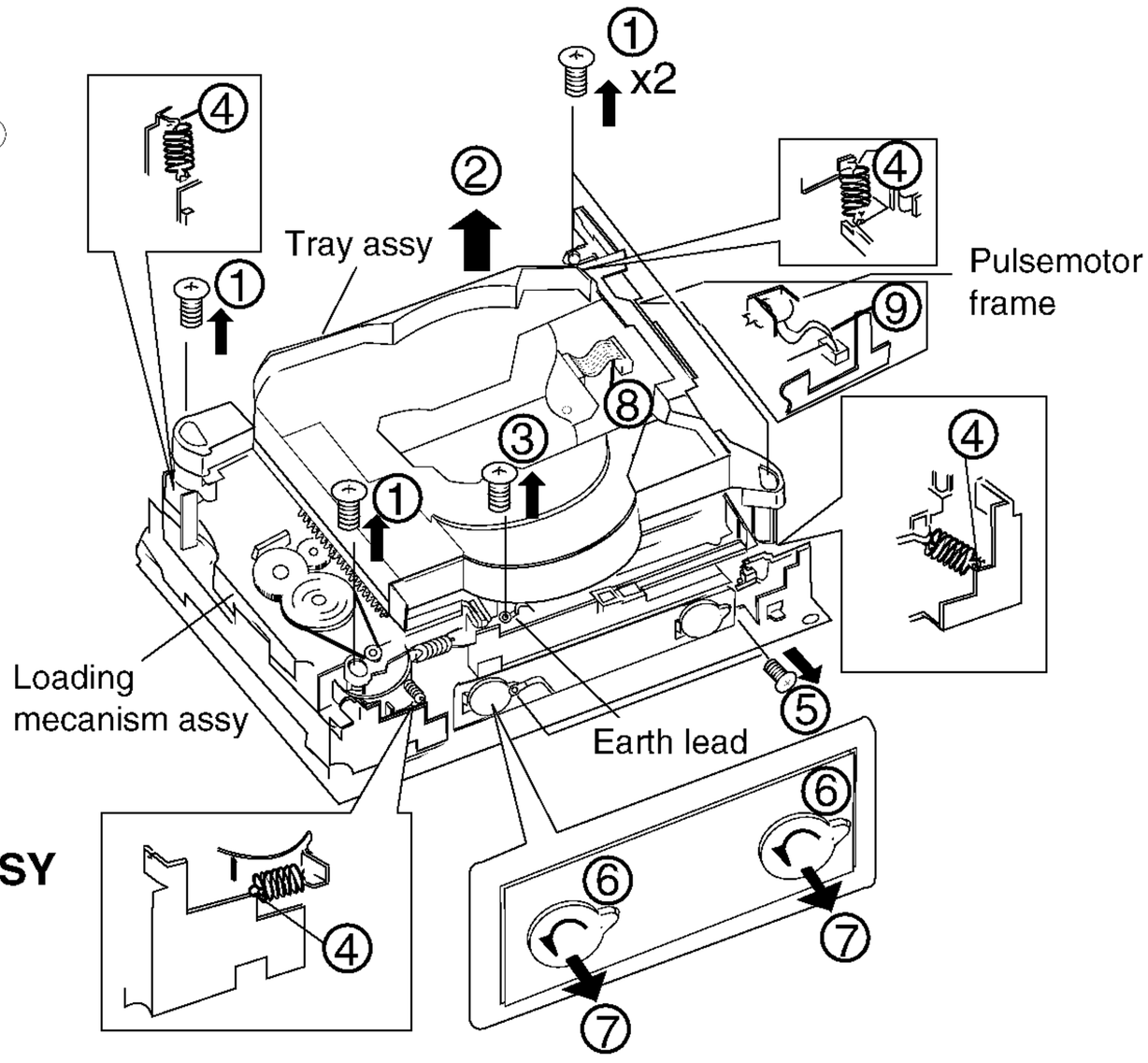



Fig 3

## ■ REMOVING THE CLAMPER ASSY (Fig 4)

1. Remove the 3 screws ① that secure the clamper cover.
2. Remove the clamper cover ②.
3. Remove the clamper assy.

## ■ REMOVING THE JOGDIAL (Fig 4)

1. Remove the clamper assy. ①, ②
2. Depressing the thrust stays ③, pull out ④.
3. Remove the jog dial ⑤.

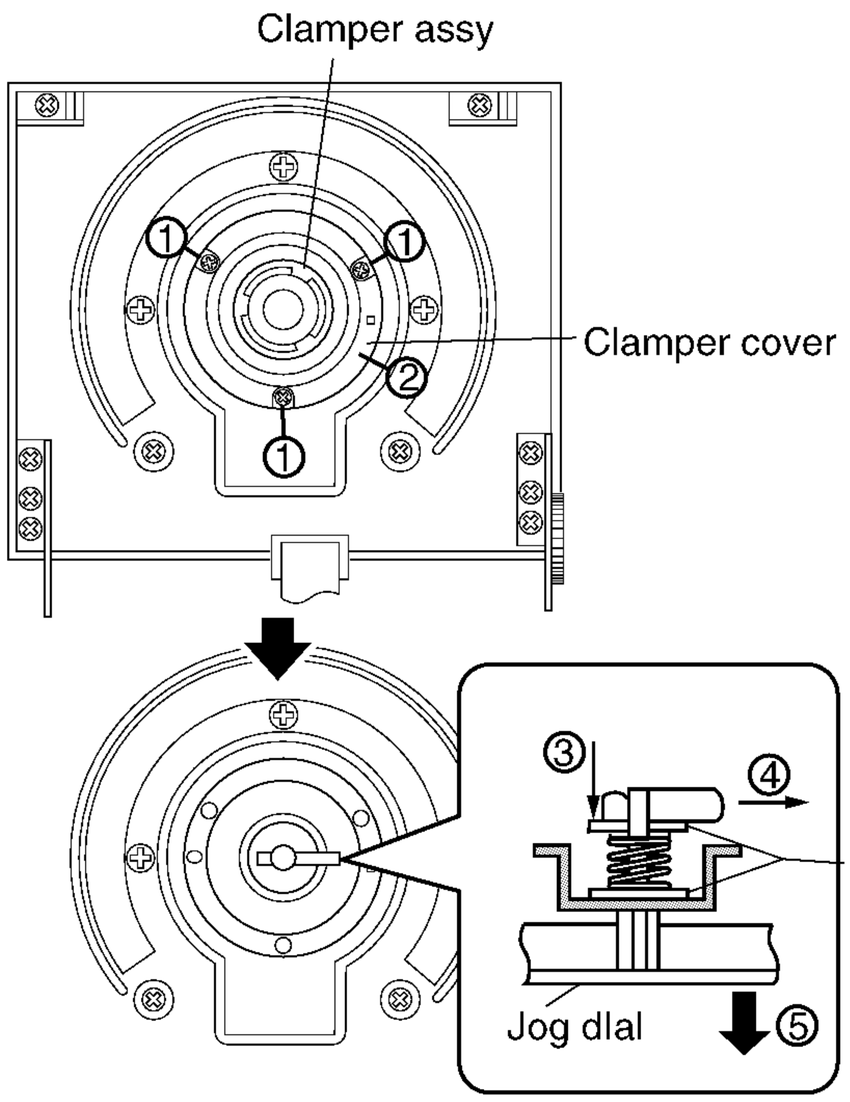
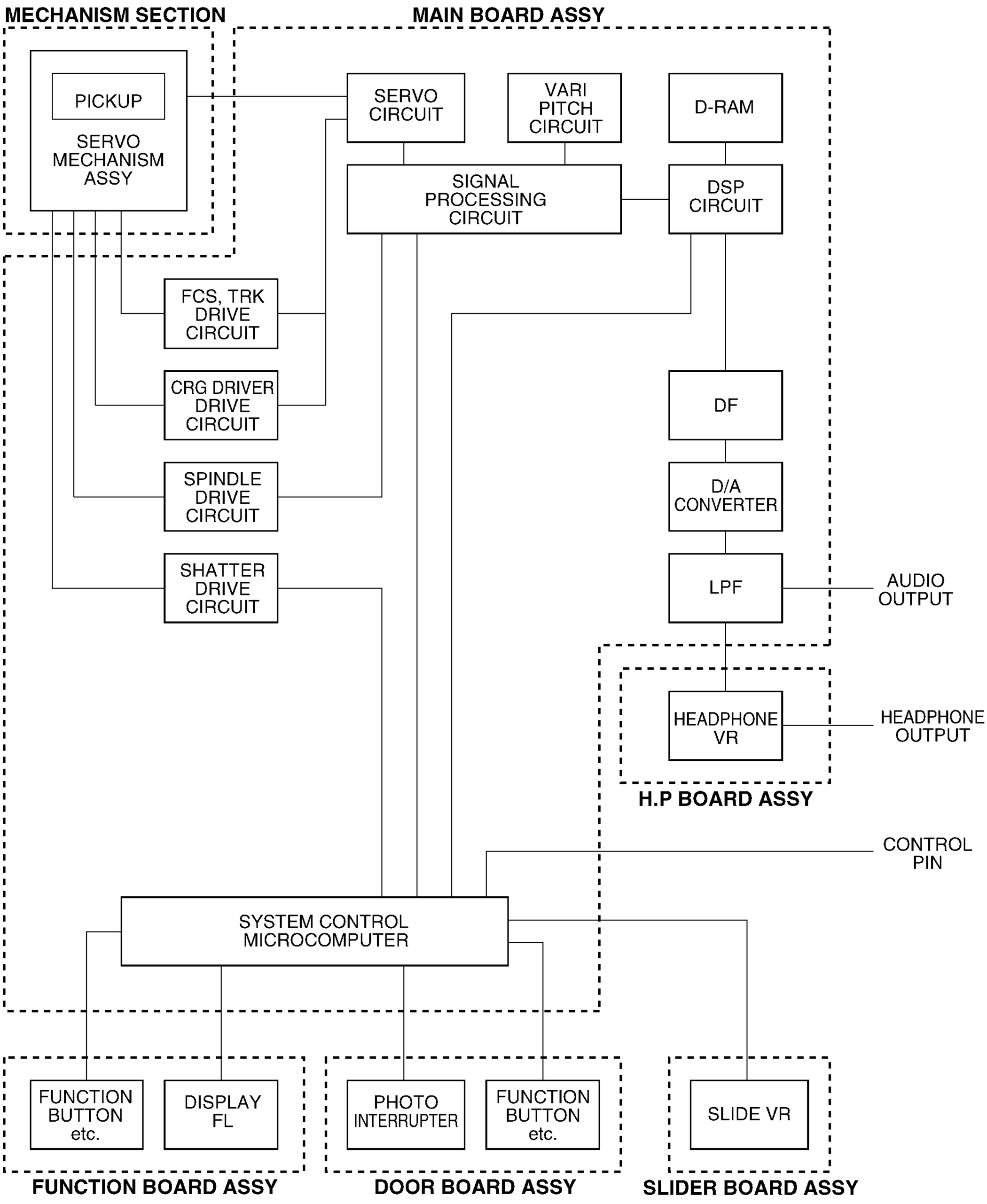



Fig 4

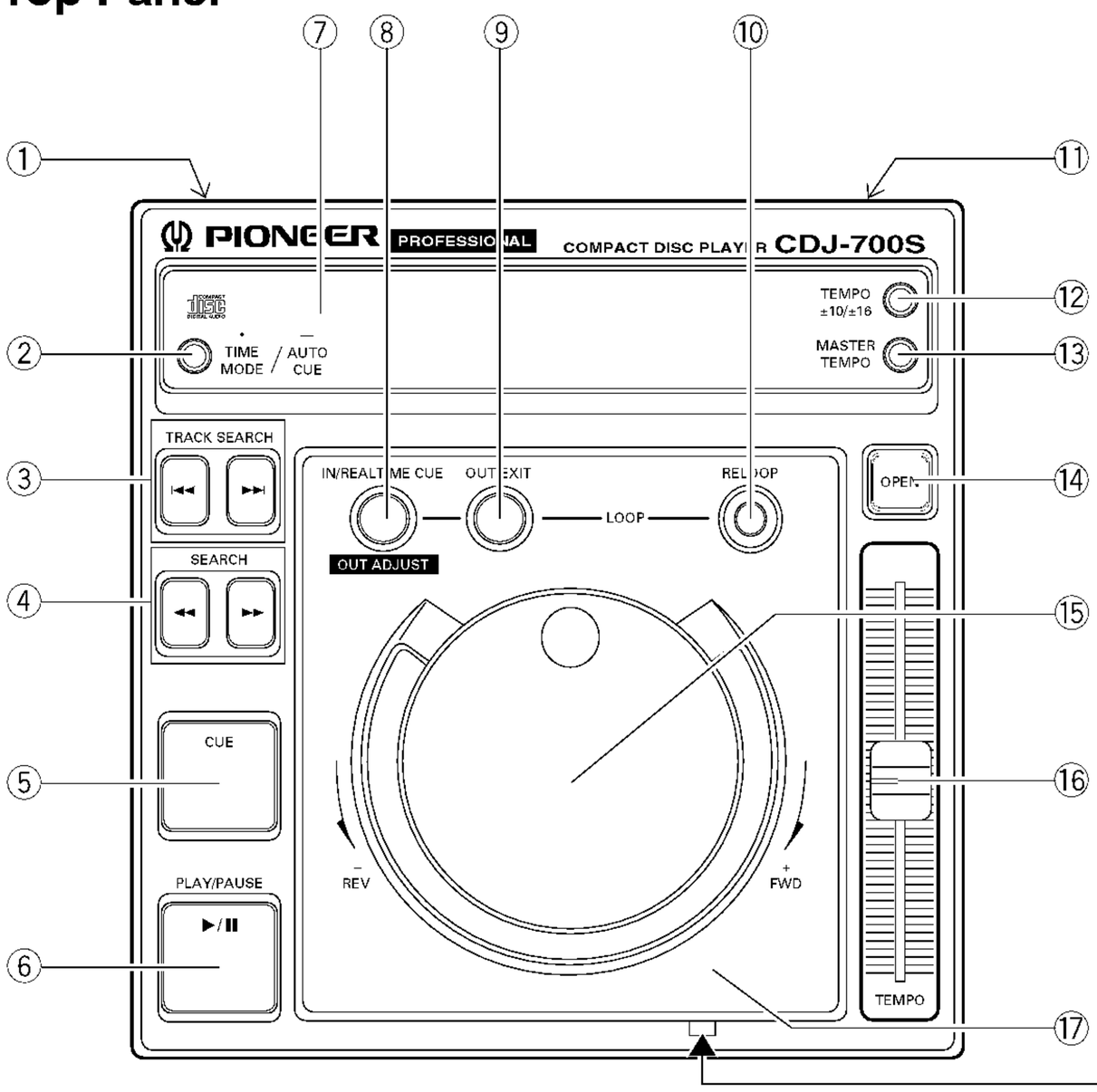
## 7.3 BLOCK DIAGRAM



# 8. PANEL FACILITIES AND SPECIFICATIONS

## ■ FRONT PANEL

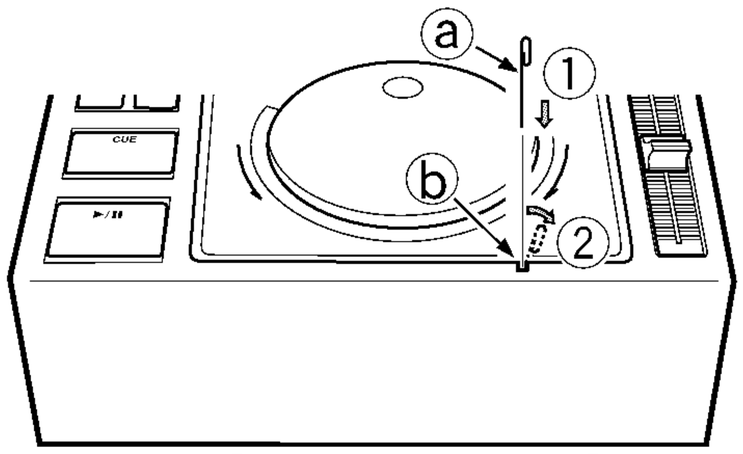
### Top Panel




**Force ejection hole**

In case the door cannot be opened by pressing the EJECT button due to a certain reason, this unit is provided with a mechanism for opening the door manually.

1. Unplug the power cord from the power outlet.
2. Fabricate a key ⓐ uing a clip (or any metallic wire with a diameter of about 1 mm and length of about 50 mm).




3. Insert key ⓐ straight into hole ⓑ shown in the illustration ①.
4. Turn key ⓐ to the right ②.

① **POWER switch**
**(Located on rear panel)**
Provides electrical power to the player.

② **TIME MODE/AUTO CUE button**
Two functions are available.

**[Time display]**
Each time this button is pressed, the time display changes between the elapsed playback time of the track (TIME) and the remaining playback time of the track (REMAIN).
- The REMAIN display appears when power is turned ON.

**[Auto Cue function]**
When a disc is initially loaded or when performing track search, this function automatically stores the cue point (the point immediately preceding actual sound output) in memory.
- The Auto Cue function defaults to OFF when power is first turned on.

③ **TRACK SEARCH buttons (|◄◄, ►►|)**

④ **SEARCH buttons (◄◄, ►►)**

⑤ **CUE button/indicator**
Three functions are available.

**[Cue Point Memory]**

**[Back Cue]**

**[Cue Point Sampler]**

⑥ **PLAY/PAUSE button/indicator (►/II)**

⑦ **Display window**

⑧ **LOOP IN/REAL TIME CUE/OUT ADJUST button**

⑨ **LOOP OUT/EXIT button**

⑩ **RELOOP button**

⑪ **Headphones jack, Level control (HEADPHONE, HEADPHONE VOLUME)**
Located on rear panel.
- The headphone jack is provided only to allow confirmation of the disc sound; as a result, the volume provided by the headphone output may seem insufficient when listening within a disco or other environment characterized by high sound volume.

⑫ **TEMPO control range button (TEMPO±10/±16)**
Each time this button is pressed, the tempo adjustment range produced by the TEMPO control slider toggles between the two range ±10% and ±16%. When the range is switched, the newly selected range (10.0 or 16.0) flashes on the display for about two seconds.
- The adjustment range defaults to ±10% when power is first turned ON.

⑬ **MASTER TEMPO button**

⑭ **OPEN button (⏏)**
Press this button to open the disc compartment door.
- When pressed during playback, disc rotation stops before the door opens.

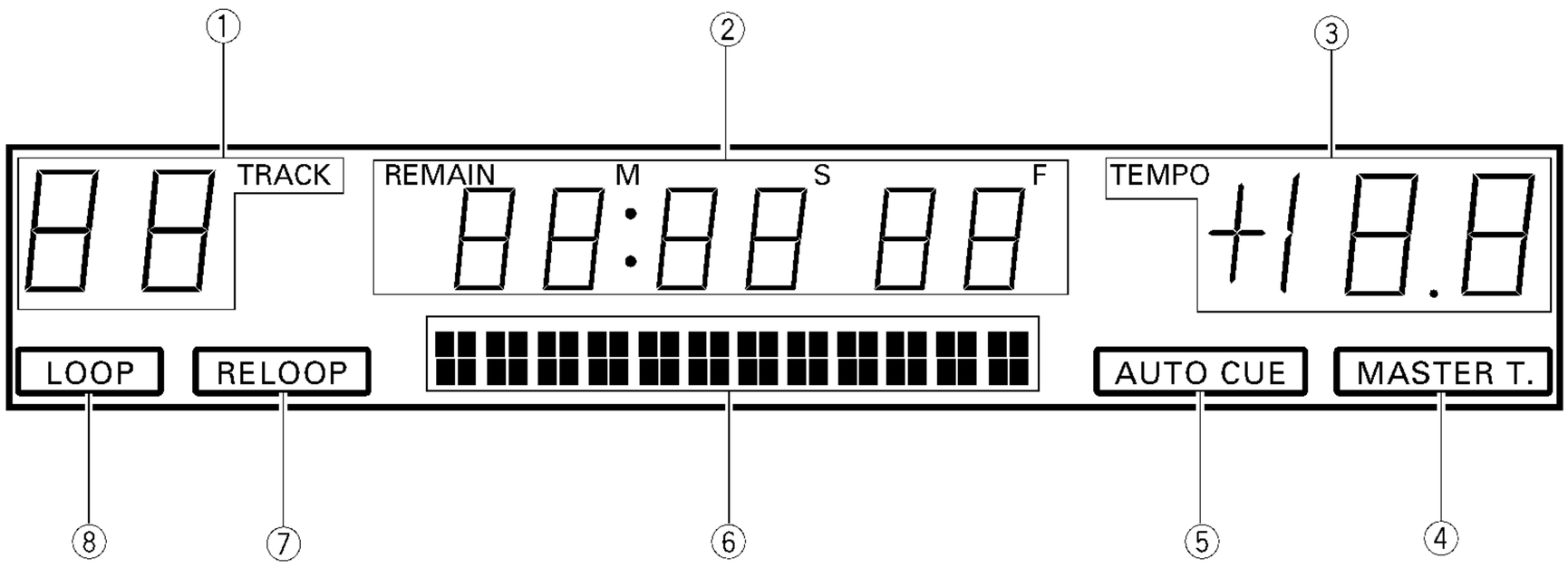
⑮ **Jog dial (+ FWD/ - REV)**

⑯ **TEMPO control knob**
The playback tempo can be changed with this knob. The center clicked position is for normal playback tempo. If you slide the knob (down) towards you (+ side), the music tempo quickens. If the knob is away from you (– side), the music tempo slows.

⑰ **Disc compartment door**
Press the EJECT button to open the door. To close the door, push gently on the front of the door.

## ■ DISPLAY

### Display Window




① **TRACK number display**
Displays the current number of the track playing.

② **Time display (REMAIN)**
The elapsed playback time of the track being played or the remaining playback time of the track being played (REMAIN) is displayed in minutes (M) and seconds (S), or frames (F).

③ **Playback tempo (TEMPO) display**
The playback tempo adjusted with the TEMPO control knob is displayed (up to ±10% or ±16%) in steps of 0.1%.

④ **MASTER T. indicator**
Lights when the MASTER TEMPO function is used.

⑤ **AUTO CUE indicator**
Lights when the AUTO CUE function is used.

⑥ **Playback address display**
The elapsed playback time or remaining playback time of the track playing is roughly indicated with the full-scaled bar graph.
- When no disc is in the disc compartment ..... off
- When displaying elapsed playback time ..... lights up from the left side
- When displaying remaining playback time ..... turns off from the left side
- When remaining playback time is less than 30 seconds ..... blinks

⑦ **RELOOP indicator**
Lights when loop playback is possible. The loop-in point (start point) and loop-out point (end point) are stored in memory.

⑧ **LOOP indicator**
Lights during loop playback.

# ■ SPECIFICATONS

## 1. General

| | |
|---|---|
| System | Compact disc digital audio system |
| Power requirements | AC 120 V, 60 Hz |
| Power consumption | 19 W |
| Operating temperature | +5˚C – +35˚C (+41°F – +95°F) |
| Operating humidity | 5% – 85% |
| (There should be no condensation of moisture.) | |
| Weight | 2.6 kg (5 lbs 12 oz) |
| Dimensions | 217 (W) × 227.7 (D) × 98 (H) mm |
| | 8-1/2 (W) × 8-15/16 (D) × 3-7/8 (H) in. |

## 2. Audio section

| | |
|---|---|
| Frequency response | 20 Hz – 20 kHz (EIAJ) |
| Signal-to-noise ratio | 106 dB or more (EIAJ) |
| Dynamic range | 96 dB or more (EIAJ) |
| Channel separation | 98 dB or more (EIAJ) |
| Total harmonic distortion | 0.004% or less (EIAJ) |
| Output level | 2.0 V |
| Channels | 2-channel (stereo) |

## 3. Accessories

| | |
|---|---|
| • Operating instructions | 1 |
| • Audio cable | 1 |
| • Control cable | 1 |
| • Screws for rack mounting | 3 |
| • Spacers for rack mounting | 3 |
| • Limited warranty | 1 |

**NOTE:**

Specifications and design are subject to possible modification without notice.